Survey & Settlement
Operations, E. Bengal
and Assam 1909-10 to 1914-15
(Assam from 1911-12)

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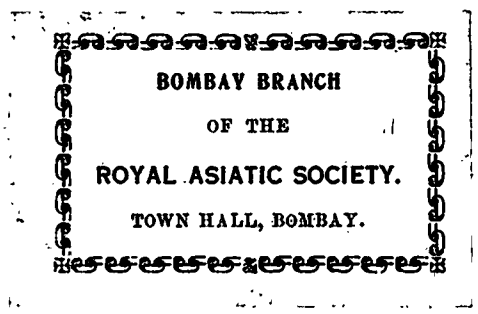

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REPORT

ON THE

SURVEY AND SETTLEMENT OPERATIONS

IN

EASTERN BENGAL AND ASSAM

FOR THE

YEAR ENDING THE 30TH SEPTEMBER 1910.

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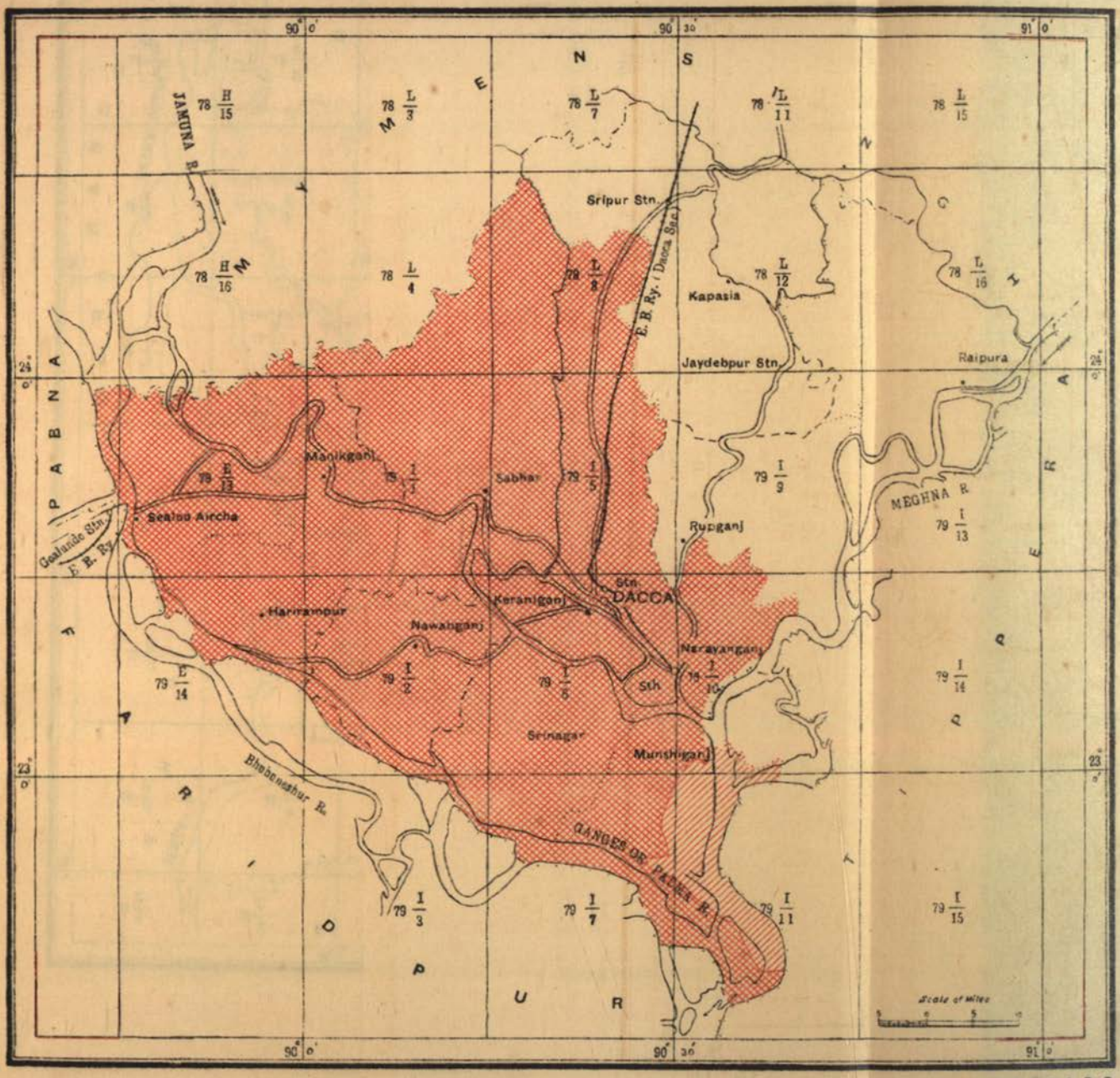
EASTERN BENGAL & ASSAM.

INDEX MAP OF DISTRICT DACCA.



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REFERENCES.

District Boundary

Sub-Division do.

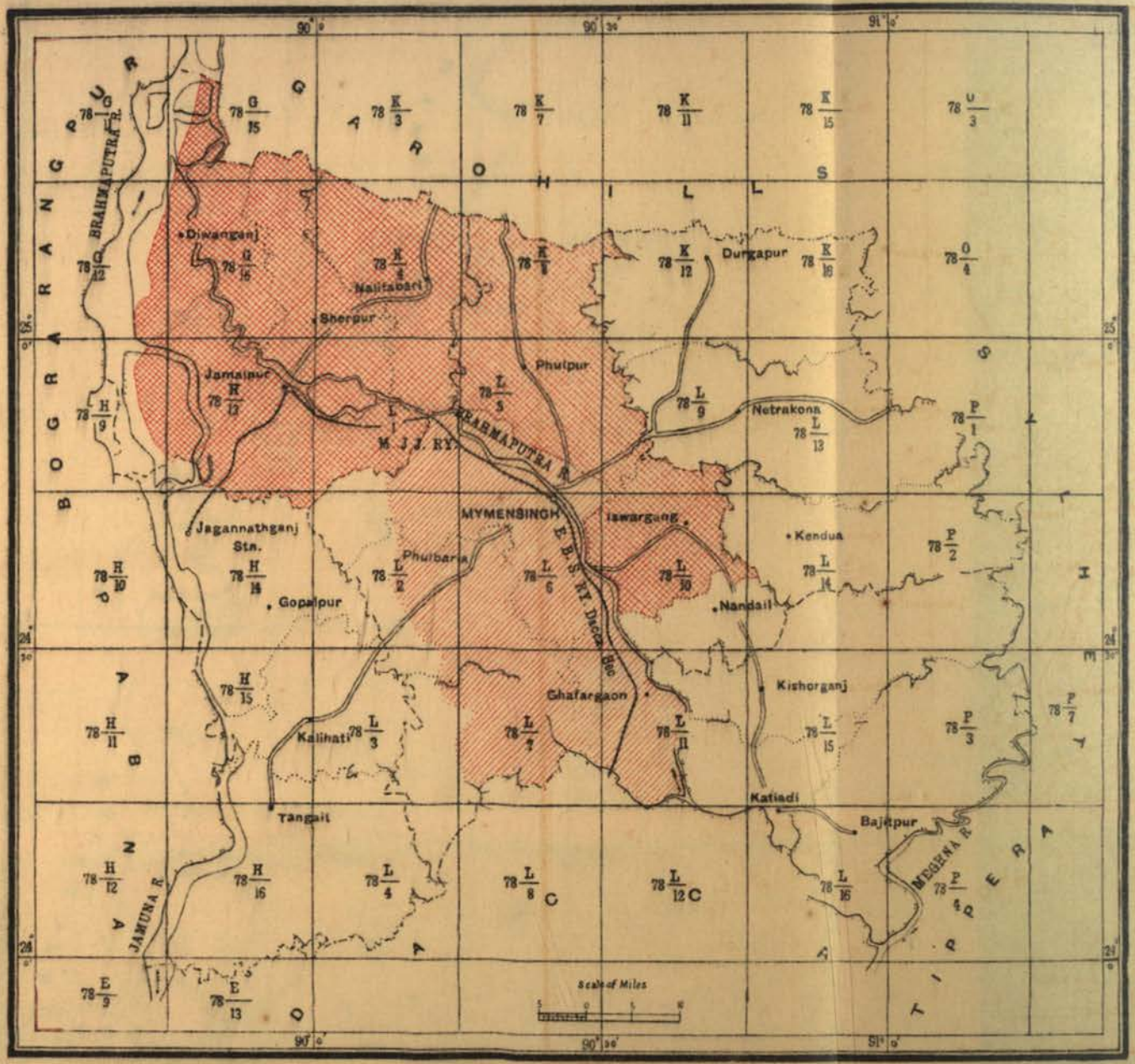
Thana do.

Traversed previously

Do. in Season 1909-10

EASTERN BENGAL & ASSAM.

INDEX MAP OF DISTRICT MYMENSINGH.



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REFERENCES.

Province Boundary

District do

Division do

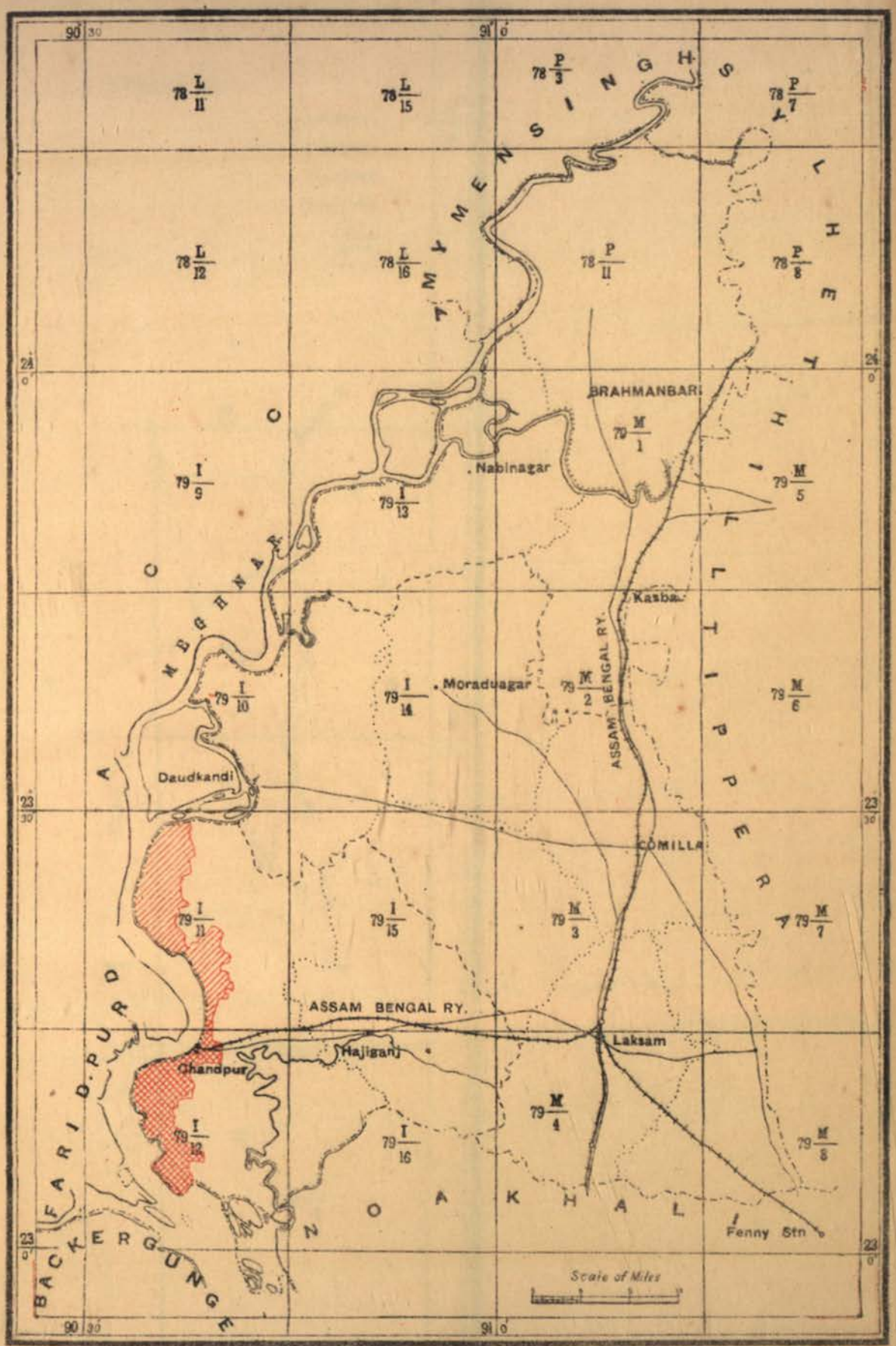
Thana do

Traversed previously

Do. in Season 1909-10.

EASTERN BENGAL & ASSAM.

INDEX MAP OF DISTRICT TIPPERA



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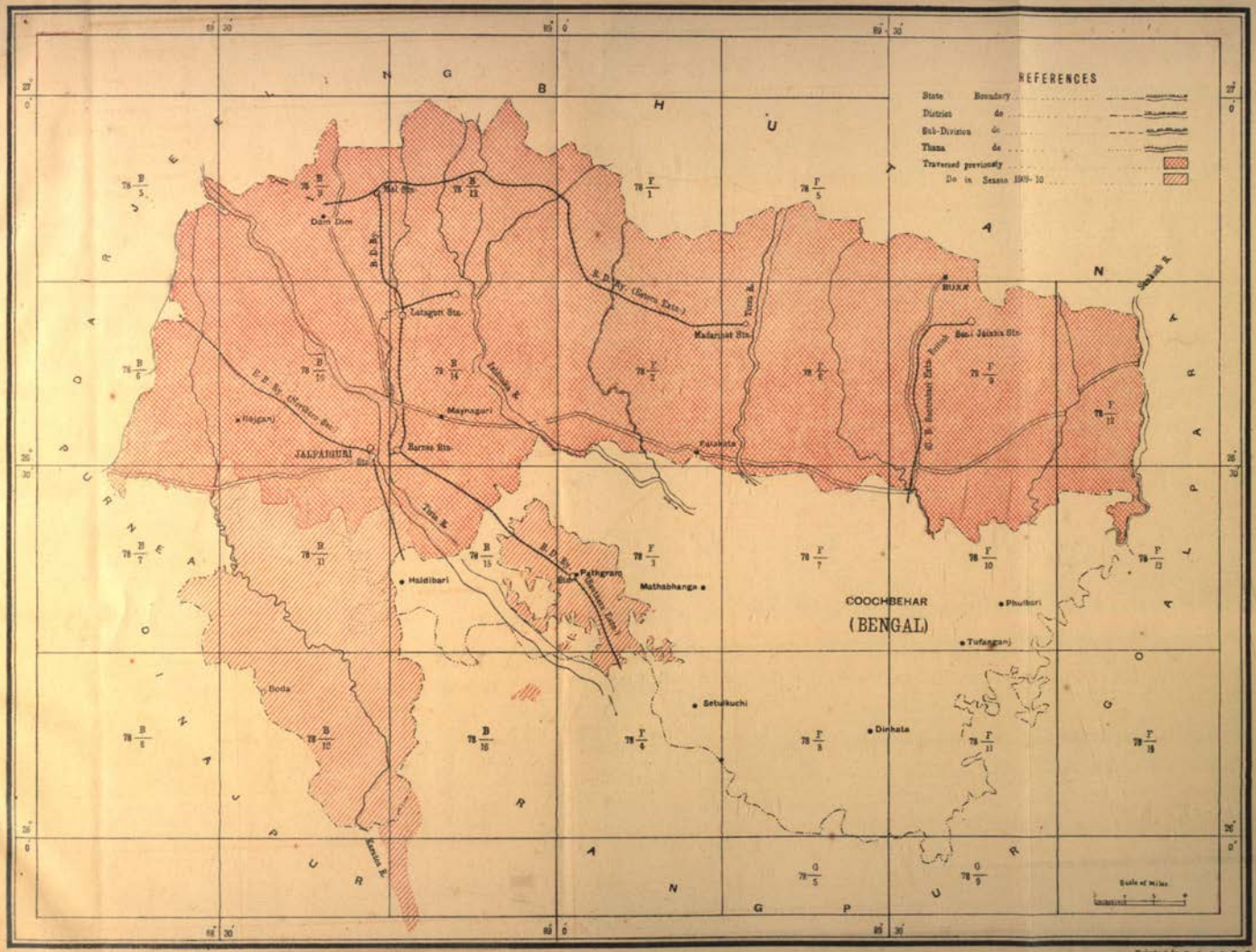
REFERENCES

District Boundary	
Sub Division do	
Thana do	
Traversed previously	
Do in Season 1909-10	

EASTERN BENGAL & ASSAM.

INDEX MAP OF DISTRICT JALPAIGURI



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EASTERN BENGAL & ASSAM.

INDEX MAP OF DISTRICT LAKHIMPUR

Printed in E. B. & A. D. O

REFERENCES.

- District Boundary
- Subdivision do
- Village areas Traversed previously
- Do Do in Season 1909-10
- Tea Gardens Traversed previously
- Do Do Do in Seasons 1909-10

No. $\frac{3598.}{R/7.}$

FROM

CAPTAIN F. C. HIRST, I.A.,

DIRECTOR OF SURVEYS,

EASTERN BENGAL AND ASSAM,

To

THE SECRETARY TO THE

BOARD OF REVENUE,

EASTERN BENGAL AND ASSAM.

Dated, SHILLONG, *the 19th October* 1910.

SIR,

I HAVE the honour to submit my report on the Survey Operations, other than Cadastral Surveys, in Eastern Bengal and Assam during the last Survey Year, *viz.*, 1st October 1909 to 30th September 1910.

2. I held charge of the Department from 1st October 1909 to the 2nd December 1910, (when I proceeded on combined leave to England) and from the 8th September to the close of the year. During my absence Captain V. R. Cotter, I.A., Assistant Director, acted for me.

CHAPTER I.

GENERAL REMARKS.

3. The outturn for the year, excluding linear and petty surveys, such as relaying lost boundaries, was 2,169 square miles as against a similar outturn last year of 2,432 square miles.

4. The Magnetic variations given in this report are to the nearest 15 minutes. If more accurate values are required they are obtainable from the Surveyor General.

5. In paragraph 6 of my last report I referred to the necessity of my powers as Director of Surveys being fixed. During the year this matter has been settled and I am now in a position to assign limits of powers to the other officers of the Department.

6. In paragraph 8 of my last report I stated that I hoped in the future to give final cost figures for the work reported upon in my annual reports. During the year the suggested new Accounts system has been introduced, but the orders were received too late in the year to admit of the hope that I expressed last year being fulfilled. The new Accounts Manual is at present in the Press and accurate figures will become possible in the future.

7. In paragraph 9 of my last report I reviewed the position in which the organization of my Department found itself on 30th September 1909. It is now possible to consider the progress that has been made in the last 12 months :—

(a) Accounts.—Our Accounts system is now in direct line with the system used by other Departments in this Province, and an Accounts Manual is in the press.

(b) Traverse Sections.—A considerable advance has been made in the general organization of these sections, but there is still room for much improvement. I will take steps to introduce such improvements as are possible, but until I am able to place all my recess offices under one roof I fear that absolute smoothness and uniformity of working will be impossible.

For the present I propose to pay most attention to the curtailing of expenditure.

(c) Forms.—Last year's report found the reorganizing of our forms in an unfinished state; there now remains but little work to be done in this direction.

(d) Adjustment of Establishments.—With the exception of the field staff our establishments are now more or less finally adjusted. As regards the field staff I propose to move slowly as I am not satisfied that we always employ the right classes of men; I hope shortly to put forward definite suggestions on this point and as my suggestions will, I hope, involve a decrease in expenditure it will be admitted that it is best to postpone the admission of men into pensionable service when it may be possible to obtain better material at a reduced cost.

(e) Office Accommodation.—We are much where we were last year in this regard and we cannot expect relief until some of the Government offices in Shillong, at present tenanted, are vacated. In this connection please see the Board's remarks on the Survey Report [paragraph 9 (*e*)] for 1908-09.

(f) Drawing Office.—In my last report I mentioned that the Drawing Office was the most backward portion of the reorganization and I am glad to be able to say that it is now, except in minor details, more or less efficient. During the year under report the following forward steps have been taken :—

(i) The plant in the Reproduction office has been installed and the machinery is now working very well. The only hitch which exists is in the working of the dynamo; this dynamo is not the one which I originally indented for and I can only say that if my original indent had been complied with no hitch would have occurred.

Captain Cotter deserves very great credit indeed for the installation work done by him and it is owing to his energy that the plant is working efficiently.

This section of the office is now in a position to deal with the probable demands of the Province for many years to come, but I am of opinion that we shall work more economically if a second large machine press is obtained now and some of the hand presses in use supplanted by it. I am about to approach the Board on this subject.

(ii) The Record Section has been completed, but all the records which it is to contain have not yet arrived.

(iii) The remaining sections of the office were working fairly well at the end of last year.

There still remains much to be done in regard to minor matters; these are now receiving attention, but until we have more room we shall be hampered continually by lack of space.

(g) Final orders regarding the grading of my superior staff have not yet been issued but they are expected shortly.

The above remarks show, I think, that since last year, the Department has made considerable strides and I am glad to record that these are, in a great measure, due to Captain Cotter, and to the loyal help given by the other officers of the Department. In addition the Surveyor General and some of his officers have given a considerable amount of aid and their action has, on several occasions, simplified things which might have been awkward.

8. In paragraph 13 of my last report I referred to the effect of climate upon the paper which we use for Cadastral Maps. Whilst on leave I made very careful enquiries regarding paper and made every possible attempt to find a substance which was reasonably impervious to the Assam climate, but I can find no paper which is in any way better than the old form P. 70 and I propose now to give up the use of form P. 70(*a*) and to return altogether to the old paper. Form P. 70 was originally discarded because it was considered to be too opaque for purposes of direct reproduction; it is now quite certain that its opacity can be overcome and I hope that the traverse plots for the work to be done in the next field season will be plotted on it.

I do not admit, at present, that a better paper than form P. 70 cannot be obtained; I am still in communication with various people on the subject and will not lose sight of the possible introduction of something better, but at present no good can result from the publishing of such detail as I have been able to collect.

As regards the printing of a blue background on 16 in. sheets which will admit of more valuable results in cadastral area extraction, Captain Cotter has carried out certain experiments and some of the traverse plots made for the coming cadastral field season have been supplied with such a background as was suggested by Mr. Milligan. It is hoped that all the necessary printing will be done in the Shillong Drawing Office, but if this is found to be impossible it will be done in England; whilst on leave I made arragements for this in case it may be necessary.

9. A special report regarding an accurate 4 inch comparison of modern and Revenue Survey boundaries, referred to in paragraph 14 of my last year's report will be found in paragraph 118, *et seq.*, of this report.

10. I have only recently obtained full information regarding the plotting machine (co-ordinatograph) to which I drew attention in paragraph 15 of my last report and I have asked Messrs. Coradi of Zurich to estimate for one such machine. The machines which are on the market only plot to scales which are multiples of 1 : 250 and it will be necessary to have special graduations made in the instruments to suit English scales. As soon as I obtain proper estimates I will ask for sanction to order one co-ordinatograph from Zurich.

11. In paragraph 16 of my last report I mentioned that I was about to submit a detailed note regarding boundary demarcation to the Board; the note was submitted early in the year under report but action has been delayed owing to a misunderstanding. The intention of Government was that I should suggest "rules" and when I came to attempt to do so I found that

there were so many different cases to be considered that the writing of rules was hedged in with difficulties. I therefore first wrote a note on the different classes of boundaries to be met with and made suggestions regarding their demarcation.

This note was discussed between the Hon'ble Mr. Lyon and me, but in forwarding the note to the Board before I went on leave, I neglected to explain that the note was intended to form a basis for rules rather than a dissertation which should be published as a general guide to all whose work connects them with boundaries. On my return from leave a few days ago the question was re-opened and is now under further discussion.

12. In the Board's letter No. 77-S. and S./T:, dated 13th May 1910, I was asked to refer in this report to the working of the rules regarding the grant of leave to officers of my Department as sanctioned provisionally in Government Order No. 981-R., dated 25th April 1910.

The rules appear to be working well, but I would suggest that consideration be given to the following points before the existing rules are permanently adopted :—

(a) Grant of Privilege leave to Provincial Officers.—In the old Bengal Surveys it was customary for the Superintendent of Provincial Surveys to grant Privilege leave to these officers whether they were of Gazetted rank or not.

In the Survey of India, at the present moment, Administrative Officers have power to grant such leave.

It may be considered worthy of consideration whether or not the power to grant this leave, now in the hands of the Board of Revenue, might be delegated to me.

(b) There are a few subsidiary points upon which more detailed rulings would appear to be advisable; to deal with these points here would greatly prolong the length of this report and I therefore propose to submit a full statement upon the whole question, to the Board, by 1st January 1911. I hope that this arrangement will be considered suitable.

13. During the year my official designation was changed from Superintendent of Provincial Surveys, Eastern Bengal and Assam to Director of Surveys, Eastern Bengal and Assam.

14. In my inspection note on the survey work of the Lakhimpur Settlement issued in November 1909 I drew attention to the fact that in Assam Districts in which cultivation is constantly extending, the detail survey work done year by year by the survey staff of the District Officer is gradually drifting further and further from the traverse work done in the most recent settlement, with the result that inaccuracies creep in. I would earnestly request that this matter be given early attention because I am convinced that, until the subject is attacked upon the lines which I indicated in my inspection note, there can be no chance of raising the standard of accuracy of extension surveys in Assam to any close approximation to the standard which we attain in Cadastral work in Eastern Bengal.

Speaking generally all the Assam Settlements have some considerable time to run before they fall in again; each year that passes now, unless steps are taken for providing the District Officer with a traverse basis for extension surveys, will increase the cost that the next settlement will entail, first in its Traverse cost and secondly in its Cadastral cost; I have suggested a means of reducing the Survey charges at the next Settlements to a minimum, but my suggestions will only meet the case if early action is taken on them.

15. The attention of the Board is particularly invited to paragraphs 5, 6, 7, 8, 11, 12, 14, 29, 50, 115, 116, 118, *et seq.*, 132, 136 and 139 of this report.

CHAPTER II.

PART I.

REPORTS ON SURVEYS IN TEMPORARILY-SETTLED AND GOVERNMENT ESTATES UNDER SETTLEMENT OF RENTS AND REVENUE.

LAKHIMPUR DISTRICT.

Traverse Survey.

16. The work in this District was carried out by the Assam Traverse Section; that unit has suffered considerably by a constant change of officers. Mr. A. C. Bose was in charge of the section until July 10th, 1909, when he handed over charge to Mr. P. F. Delaney; that officer took the field at the beginning of November 1909 and during the field season his health broke down badly; he was eventually relieved by Mr. A. F. Corridon who held charge until the end of this Survey Year.

17. The programme carried out was the Traverse Survey of 148 scattered villages (86·45 square miles) and of 11 waste land tea grants (2 square miles). The 16″ plots fell on 191 sheets. In addition a considerable amount of miscellaneous work was done for the Settlement Officer.

18. The origin adopted for the survey was the intersection of North Latitude 26° 30′ with East Longitude 94° 30′, that origin being used for both the Dibrugarh and Sibsagar Districts.

19. The usual difficulties in finding village boundaries were encountered; the programme was very scattered and portions of it were not known until late in the season; this is unavoidable but its result is to greatly enhance cost rates. To illustrate the uncertainty of these programmes the expected programme for village traverse work was just over 34 square miles whilst that actually completed was over 86 square miles.

Owing to heavy rain falling at the end of the field season a considerable area of tea gardens had to be left over for Survey until next year.

20. All new traverse stations were marked with pegs, and *simul* boughs embedded in earthen mounds were placed five feet to the Magnetic north of each by the Settlement staff. The permanent marking of the Traverse stations will be done later on.

21. In the village area there were 2,755 theodolite stations; these were marked with 137 masonry pillars, 86 stone pillars, 39 metal *chongas*, and 2493 wooden pegs.

In the tea grant area there were 152 theodolite stations; these were marked with 11 masonry pillars, 37, stone prisms, and 104 wooden pegs.

PART II.

REPORT ON THE SURVEYS IN PRIVATE ESTATES.

JALPAIGURI DISTRICT.

Traverse Survey.

22. The programme consisted of the completion of the district, so far as it falls in the Jalpaiguri District itself and in the Cooch Behar State in which a considerable area lies. Some portions of the district fall in the Rangpur and, I believe, Goalpara districts, and these, for the present, have been omitted from our operations.

23. The area traversed falls in the Boda Pargana (452 square miles) and in the Patgram Pargana (107 square miles); the latter falls within the Cooch Behar State and as far as the Jalpaiguri district is concerned, consists of one block of 93 square miles, and 15 scattered *taluks* falling within a radius of about six miles from the main block. Included in the Boda Pargana is an area of about 26 square miles which falls in the extreme south-western corner of the district which recently belonged to the Rangpur district; this area has been traversed on the assumption that it now belongs to the Jalpaiguri district.

24. No tea grants or reserved forests fall within the area traversed.

25. The unit of survey was the *taluk* and not the village.

26. All *taluk* trijunctions have been marked with stones, and such *jote* trijunctions as were used as Traverse stations were similarly marked. The remaining *jote* trijunctions will be marked with stones by the Settlement Officer during the latter stages of the work.

27. The field season opened at Domar on the 22nd November 1909 and closed on the 7th May 1910.

28. The old maps used for the guidance of the traversers were traces prepared from the existing one inch maps amplified by data which existed in the Deputy Commissioner's office. The Settlement Officer very kindly undertook to help us by providing traces and the traces were very useful. In addition a *taluk* list was made use of. It was found eventually that it was impossible to obtain absolutely complete information to work on and therefore, if further subsidiary traversing is needed next field season, we must be prepared for it.

The Revenue Survey maps were of little use as guide maps because local conditions appear to have replaced the Revenue Survey Village by the *Taluk*; the conditions seem to be somewhat similar to those in the Surjapur Pargana of the Purnea district in Bengal, where the Revenue Survey villages have been entirely lost sight of by the inhabitants. One result is that the Traverse stage of the operations has been rendered somewhat more difficult than it would have been under ordinary circumstances.

29. The demarcation by the inhabitants was very bad, and without proper demarcation we cannot expect to work at low Traverse rates. I think that it should be possible to devise means by which demarcation should be properly done. In my note on Revenue Traversing published by the Bengal Government in 1905 I stated that proper demarcation by the inhabitants might be expected to reduce cost rates by about .25 per cent and I would suggest that the Director of Land Records and I might mutually consult on this point and provide the Board of Revenue with a detailed note.

In our demarcation of the area under report we were helped by the Cooch Behar authorities, they sending *Amins* to give help, but this occurred at a somewhat late stage in the proceedings, *i.e.*, after the delay which is so expensive had occurred.

My remarks above about demarcation refer not only to this dstrict but to every district in which I have experience in Eastern Bengal. I think that I have worked in every district and that my remarks may therefore be taken to apply generally to the whole of the Eastern half of this Province.

30. The inhabitants were very apathetic; they did not appear to take any interest in our proceedings.

31. The Magnetic Variation in this District is East 1° 30′.

32. Twelve great Trigonometrical Stations were connected with; the traverse error works out at 4·21 feet per linear mile. This is a good result;

I have recently been compiling figures, &c., which will give us an opportunity of comparing our general standard of accuracy with that usually accepted by European Nations; I hope to be able to produce a note dealing with this subject in the near future.

33. In the Boda Pargana 1,758 Trijunction stones, 11,064 pegs, 75 old masonry pillars, 18 trees sown off and turned into temporary marks, 120 galvanized cylinders were used as traverse marks. In addition 50 clay cylinders originally embedded by No. 4 Party of the Survey of India, placed along the Purnea-Jalpaiguri Boundary were found and used as stations; most of the marks put down by that Party were found to be missing and to simplify the boundary comparison of the Settlement Officer their positions were relaid and marked by pegs.

In Pargana Patgram the marks used were :—

197 Trijunctions stones, 2864 pegs, 175 old masonry pillars and 148 galvanized iron cylinders.

34. The *Jawab* stations of all permanently marked stations were marked by *simal* or *jigar* trees placed five feet to the Magnetic North of each station.

35. The origin accepted is the intersection of North Latitude 26° 30′ with East Longitude 89°; but in computing the final co-ordinates no correction has been applied to give values from the latest value of Madras. The reason for this is that the orders requiring us to accept that latest value were received some time after we took up this district and therefore, without opening up old work to a very great extent, it was found impossible to accept the latest value of the Madras Observatory.

36. The health of the establishment was very fair; fever, dysentery and a few cases of small-pox were the causes of such sickness as was encountered.

37. The Traverse plots and other accessories for the Settlement Officer will be in his hands by about the 15th October. The work of this Detachment is quite up to date and there are no arrears of any sort.

38. The traverse plots fall on 1,020 sheets.

Mymensingh District.

Traverse Survey.

39. The survey of this District was continued from last year. The areas traversed were :—

	Square miles.
Thana Mymensingh	349
„ Fulbaria	187
„ Gafargaon	316
Total	852

40. The origin of survey is the intersection of East Longitude 90° 30′ with North Latitude 24° 30′.

41. No Great Trigonometrical Stations fall in the area surveyed, but the work has been connected with that of the Dacca District and it is known that no undue accumulation of error has occurred; this is probably due to a combination of good luck and good work but we should not countenance the former. I am approaching the Superintendent, Trigonometrical Surveys, with a view to seeing whether he can help us to obtain a sufficiency of accurately fixed points in this district to admit of our finally closing our traverse data year by year.

42. The marks used at new Traverse stations were :—

Stones	1,659
Pillars	1
Earthen Cylinders	531
Wooden pegs	16,441

In addition saplings of *gika* or of *simul* trees were placed five feet to the Magnetic North of all Stations which fall upon village boundaries.

43. The mean Magnetic Variation is East 1° 15′.

44. The traverse plots fall upon 1,619 sheets.

45. No preliminary demarcation was done by the inhabitants ; they were apathetic but not actively obstructive.

46. The maps of the Revenue Survey of 1849-1857 were used to guide the Surveyors.

47. The health of the establishment was good.

48. The traverse records will be practically completed before the office closes for the field season and the 16″ plots will be in the Settlement Officer's hands in ample time for his field programme arrangements.

Dacca District.

Traverse Survey.

Relaying Work.

49. In paragraph 50 of my last report I pointed out that 50 square miles of this district had been relaid when the work was postponed; this area of 50 square miles was again relaid in this Survey Year since most of the marks had disappeared when our staff reached the ground. This is a very significant point and it shows that even 12 months, in areas in which people are not actively obstructive, may be too long a period to allow between the Traverse and Cadastral stages of a Settlement.

The areas actually relaid were :—

	Square miles.
Thana Aricha	140
„ Harirampur	78·5
„ Manikganj	213
„ Nawabganj	110·5
Total	542

This area is considered by the Director of Land Records to be sufficient for the programme of the Settlement Officer in his first year of office in this district and so no attempt will be made in the coming field season to carry out advance work which would admit of a Cadastral programme of 800 square miles.

50. The table below shows graphically the effect, in loss of marks, which has resulted from the old marks being left to themselves—after unusual precautions for their maintenance—for the period between June 1906 and February 1909.

In this time about 50 per cent of the marks originally embedded has disappeared :—

No. of stones embedded in 1905-06.				No. of stations found in 1909-10.				No. of old stations not found but relaid.				No. of new stations embedded.			
Stones.	Cylinders.	Pegs.	Total.	Stones.	Cylinders.	Pegs.	Total.	Stones.	Cylinders.	Pegs.	Total.	Stones.	Cylinders.	Pegs.	Total.
2,893	3,156	7,749	13,798	2,038	1,742	2,970	6,750	750	493	5,195	6,438	3	8	304	315

The figures above speak for themselves and it is clear that the relaying operations were absolutely necessary or the Settlement Officer would not have been able to carry out the Cadastral Survey.

51. Where alterations were needed new 16″ plots were made and sent to the Settlement Officer.

These number 84 sheets.

52. The work was carried out by the Mymensingh Traverse Detachment; it started work in Dacca during February 1910 and completed its programme in may, with the exception of a small establishment which was out in the Field until July 1910.

Dacca and Tippera Districts.

(Riverain Areas.)

Traverse Survey.

53. The programme consisted of the traverse survey, for Cadastral survey in the same season, of an area of 127 square miles which falls in the *diara* lands along the Megna River between the Dacca and Tippera Districts; about one third of this area consisted of water, the land surfaces in each district traversed being Dacca 37·3 square miles and Tippera 45·2 square miles.

54. The traverse was joined on to old work done in Dacca in 1905-06 and more recent work executed in Tippera in 1908-09.

55. The origin used was the intersection of North Latitude 24°-30′ with East Longitude 90°-30′. The Magnetic Variation is East 1°.

56. 1,341 of the Traverse stations were marked with pegs and the remaining four with stones.

57. The final co-ordinates of stations are fixed with due regard to the latest accepted value of the Madras observatory.

58. Very great changes have occurred in the river bed since the Revenue Surveys. This was only to be expected.

PART III.

REPORT ON MISCELLANEOUS SURVEYS.

GOALPARA-KAMRUP DISTRICT BOUNDARY.

Relaying Work.

59. The boundary relayed extends for about 60 miles from a point on the Goalpara-Kamrup District Boundary about seven miles North of the trijunction of Districts Goalpara, Kamrup and the Garo Hills.

The traversing for this work completed in the year 1908-09 but the actual relaying had to be left over till the season under report.

60. The relaying was required to be done according to Major Macdonald's (1874-75) and Mr. J. Kelso's maps (1849-50 and 1852-53). As Major Macdonald's work had been connected to a number of Great Trigonometrical Stations and his origin of survey was Banku Mari Great Trigonometrical Station, it was easy to convert the values of his traverse stations and refer his survey to the origin which has now been taken as the origin for the Goalpara District.

Latitude ... N. 26°-30′
Longitude ... E. 90°-30′

Major Macdonald's and our traverse survey being referred to the same origin both traverses were plotted on the same sheets on the four inch = one mile scale, and his boundary line was pentagraphed from the original sheets to our plots (as the survey 1874-75 was made on the two inch = one mile scale). The circumstances of the case rendered this increase absolutely necessary. After the transfer by pentagraph had been made it was checked by proportional compasses by offset measurements from the traverse lines to the boundary against the original maps. Mr. Kelso's line was then fixed in reference to Major Macdonald's by reducing the maps of the latter from the two inch = one mile scale to the one inch = one mile for parganas Habraghat and Khuntaghat of District Goalpara. A trace of Mr. Kelso's maps of these parganas (which are on one inch = one mile scale) was fitted onto the reduction of Major Macdonald's map by the aid of details common to both; Kelso's line was then transferred to the one inch reduction (of Major Macdonald's maps); from the reduction Kelso's line was again transferred to the four inch = one mile plan for relaying.

61. One Traverser, two Tindals, one Mate and seven Khallassies were occupied on this work the whole field season and one Traverser, two Tindals, one Mate, seven Khalassies for two months and twenty-one days.

62. The relaying was commenced on the 29th November 1909 and completed on the 2nd June 1910.

63. Temporary demarcation has only been done, *i.e.*, both Macdonald's and Kelso's lines have been demarcated by bamboo posts; those marking Macdonald's lines have been painted red and those on Kelso's lines white. Where the two lines cross or cut one another two posts are embedded side by side one being painted red and the other white.

64. Whilst the traversing of this boundary was in progress in season 1908-09 our traverse was run by the southern bank of the Brahmaputra river that bank being considered to be the boundary according to Kelso's map of 1850-53 because a coloured (red) border is shown in Kelso's maps for his pargana and district boundaries and we were following this. But the officers of the Bijni Raj objected because they consider that a number of

churs shown in Kelso's maps falling north of the red border line and in the bed of the Brahmaputra River belong to Pargana Habraghat, District Goalpara, and consequently they think that the District boundary here should follow the north bank of the river as shown in Kelso's map. In consequence of this, the matter was referred to the Commissioner, Assam Valley Districts. It is still under his consideration. However, we have demarcated the northern bank of the river in this portion as well as the southern.

65. The Deputy Commissioner of Goalpara was requested to make some arrangements by which the boundary to be accepted be decided whilst the relaying was in progress and that permanent demarcation be carried on simultaneously with the relaying but nothing was done regarding this till towards the close of the field season when a Sub-Deputy Collector Babu S. C. Lahiri was sent by the Deputy Commissioner, Kamrup, to see what had been done, to check the work, but not to decide the boundary. The Sub-Deputy Collector, who arrived in the field about the first week of May 1910, wanted our traverser, who at the time was busy in relaying, to go back over the work he had completed; he also asked for our maps; his request could not be complied with as it would have meant the closing of the work; in consequence nothing was done till the sheets were received back from the traverser; traces were then made and sent to the Deputy Commissioner, Goalpara.

66. Some complaints appear to have been made to the Deputy Commissioner of Goalpara to the effect that the traverser sent by us to relay the boundary was demarcating incorrectly and the Deputy Commissioner in his No. 527, dated 13th May 1910 wrote reporting the matter, but the statements made could not be correct because Mr. E. A. Rampezzotti checked the whole of the relaying done by the traverser from end to end and only found slight mistakes in a few places and these he corrected. The Deputy Commissioner has been informed accordingly.

67. It now remains for the Deputy Commissioners of Goalpara and Kamrup and other interested parties to decide from the demarcation of Major Macdonald's and Mr. Kelso's lines done by us and with the help of the traces of our maps referred to above which line is to be finally accepted as the District boundary; on a decision being arrived at they may arrange to carry out the permanent demarcation of the boundary by erecting pillars on the sites temporarily marked by bamboo posts; when this is completed the services of a surveyor and necessary supervision may be required to survey and map all the permanent marks erected on the sheets from which the relaying was done.

The Deputy Commissioner will be requested to decide these details and inform us if anything further is required to be done.

68. The total expenditure on this work has been met by deposits made by Bijni Raj.

RELAYING OF BOUNDARIES OF ADARDIA AND SRIJANGRAM.

GOALPARA DISTRICT.

69. The boundaries of villages Adardia and Srijangram, which villages lie in the north east corner of Pargana Khuntaghat of District Goalpara were required to be relayed; the northern sides of both villages and portions of the eastern side of Adardia were to be relaid according to Major Macdonald's data and maps of 1874-75, and the southern sides of both villages, the western side of Srijangram and the remainder of the eastern side of Adardia according to Mr. John Kelso's map of 1852-53.

70. Major Macdonald's and Mr. Kelso's data and maps were obtained from the Map Record and Issue Office, Calcutta, and on examining them it was found that Major Macdonald's data and map could be utilized as his traverse work was referred to Bankimari Great Trigonometrical Stations as origin; he had also connected with various Great Trigonometrical Stations in the District and used their values for correcting his traverse work; but Mr. Kelso's traverse was not referred to a Geographical origin, neither had any points which are Great Trigonometrical Stations been properly fixed or connected with; thus in his map of Parganah Metchpara he shews the co-ordinates of one of his traverse stations Y. 8 as S. 1,394·40, W. 393·00 from Brahmaputra River Great Trigonometrical Station, but it is evident that these co-ordinates have simply been taken by measurement from his map and that the G. T. Station was not correctly connected by traverse; even the position shewn on his one inch = one mile is doubtful; if we consider the errors in the plotting of his traverse stations without further considering accumulation of errors in his traversing which could not be corrected out it is clear that no use could be made of Kelso's Traverse work.

71. Then again Mr. Kelso's four inch = one mile map of these villages could not be used; owing to the errors in the plotting of his traverse stations on the periphery of the villages the detail survey was distorted and a proper fitting between this and the other maps, *i.e.*, Major Macdonald's or Kelso's one inch = one mile map, could not be made.

72. It was proposed that Major Macdonald's data and maps and only Mr. Kelso's one inch = one mile map be utilized for preparing a map for relaying the boundaries and this proposal was accepted by the parties interested.

73. On the above decision being arrived at Major Macdonald's traverse data was converted and referred to origin (the origin accepted for the Goalpara District); the resulting values were plotted on the four inch = one mile scale and Major Macdonald's line transferred by compass measurement from his original maps to the four inch sheets.

Latitude ... N. 26°-30′
Longitude ... E. 90°-30′

It then became necessary to transfer Mr. Kelso's line with reference to Major Macdonald's onto the same sheets; to do this Major Macdonald's maps of Parganas Habraghat and Khuntaghat, which are on the scale of two inch = one mile, were pentragraphed down to the scale of one inch = one mile which is the scale used for Mr. Kelso's survey. A trace of these two parganas from Mr. Kelso's survey of 1852 was then made and fitted on to the reduction of Major Macdonald's maps; a very fair fitting obtained by details common to the two surveys was obtained; by the aid of these details Kelso's line was transferred to the four inch sheets alluded to in the first part of this paragraph. We thus obtained a plan giving Major Macdonald's traverse referred to the present origin of the district and both Major Macdonald's and Mr. Kelso's lines with reference to each other.

74. On the map taking the field, two traversers, four tindals, two mates and seventeen Khalassies were detailed to do the field work.

75. The men started work on the 6th December 1909 by commencing traverse work from station K^{10} of the traversing done by this Detachment in season 1908-09 whilst surveying the Goalpara-Kamrup District Boundary; they worked round the periphery of the villages, and after completing the polygon a connecting line was run to Narikola Great Trigonometrical Stations.

76. On receipt of these field books in office the work was set up and referred to* as origin and plotted on the relaying plans prepared; a comparative map was thus obtained shewing Major Macdonald's and Mr. Kelso's lines with reference to our traversing. It thus only remained to lay off the boundaries from our map on the ground, and this was started as soon as the sheets were sent out to the two traversers who had done the traversing.

*Latitude ... N. 26°-30′
Longitude ... E. 90°-30′

77. Shortly after relaying had been commenced the Bijni Party desired that the work be stopped; they considered that the map for relaying had been incorrectly prepared, because a point known as G. 14 (a traverse station of Mr. Kelso's survey and shewn on his map as the extreme north west corner of village Srijangram) according to our relaying fell about 11·4 chains west of a circle of *Pakuri* trees which they have hitherto believed to mark the position of G. 14 and about four chains west of a point which has hitherto been thought to be the position of G. 14 by the Gauripur Party; in some other places, for instance along part of the Majaimuk stream, the line relayed falls from 1 to 7·50 chains south or south-west of the southern bank of the stream which the Bijni Party consider to be in exactly the same position as it was at the time of Kelso's survey. They also disputed the relaying of Major Macdonald's line on the East of Adardia.

78. Mr. Judd proceeded to Srijangram and personally went over these places and it is his opinion that the Majaimuk River could not have shifted its position or course by so much as the difference which is disclosed by relaying from Mr. Kelso's map but the circle of trees which the Bijni Party say marks the site of G. 14 cannot be taken into consideration as it is most improbable that Mr. Kelso should have taken such special care to mark the site of this station when he has not done so elsewhere; besides this, the trees are young, none appearing to be from 50 to 60 years old. As regards the eastern limit or Major Macdonald's line—it is absurd to dispute the accuracy of this line, because Major Macdonald's traverse was taken into consideration when relaying it.

79. Representatives of both parties were present and the method adopted in preparing our map was fully explained; the Bijni Party then desired that natural features be taken into consideration as far as Kelso's line was concerned; the stream referred to above was alluded to, but it was explained that neither Kelso's nor Macdonald's lines could be shifted in the least for any such considerations because such a shift would throw out the whole of the boundaries of these villages with respect to the Habraghat and Khuntaghat Pargana boundaries; they then wished to check the maps prepared by us; every opportunity was given and assistance rendered, and the Bijni Raj sent their Head Draftsman to the camp at Domar; there he checked the records and maps, and finally stated that he was convinced that the map prepared by us was as accurate as it could possibly be made with the aid of the data and maps at our disposal.

The Assistant Superintendent of Bijni Raj also went to Domar and looked over the data and maps on the 24th March 1910, conferred with the Head Draftsman and came to the conclusion that the map had been correctly prepared; it was decided by the parties at a meeting at Gauripur on the 16th April 1910, that the relaying should be completed.

80. The temporary demarcation was completed by the 13th May 1910, and some of the natural features referred to in paragraph 77—the Majaimuk stream, &c., were mapped on the sheets—as they existed when relaying was being carried out; Captain Cotter considered the case carefully and decided that the proposals made of the Bijni Raj to take natural features into consideration, could not be accepted, and that a more correct map than that by which the relaying has been done could not have been prepared from the information available. I have since gone into the case and I agree with Captain Cotter.

81. Two copies of traces of the maps from which the relaying has been done have been sent to the Deputy Commissioner of Goalpara, and he has been asked to make them over to the interested parties and to request them to decide the limits of the villages with the joint aid of these and the temporary demarcation which has been done; they should carry out the permanent demarcation (which should have been done simultaneously with

the relaying, but was not done because our maps were not fully trusted) and if they hereafter desire the services of a traverser to survey and shew on the maps from which relaying was done all permanent marks erected, I will supply the necessary staff.

82. The parties also desired that the boundary between the two villages should be relayed according to Mr. Kelso's map, but as no boundary is shewn in Mr. Kelso's map this could not be done.

83. 64·9 Linear miles of traversing was done ; 11 Azimuths observed of which 10 were used ; 293 pegs and one pucca pillar picked up were used as traverse stations.

84. The origin of survey given in paragraph 76 has been taken as the origin for the whole of the district, and 2′-27″·18 corrections of Longitude have been applied to obtain correct values by the latest value of Madras.

85. The traversing has been connected on to Narikhola Great Trigonometrical Station and its values have been used for reducing the origin co-ordinates and for correcting the traverses ; it is also connected to to the traversing done in season 1908-09 on the Goalpara-Kamrup District Boundary—which was also connected to various Great Trigonometrical Stations.

86. An old masonry pillar, by the side of which is a stone prism, exsists on the Goalpara-Kamrup District Boundary and according to Major Macdonald's map this pillar marks the north east extremity of village Adardia ; at the time of relaying this mark was found to agree exactly with the relaying ; in other places along the Northern boundary of the villages there are some stone prisms which are supposed to demarcate Major Macdonald's line ; in many places these do not agree with the relaying but it is presumed that these marks must either have been put down after Major Macdonald's survey and incorrectly placed or that they have been removed from their correct positions. A few of these stone prisms were found uprooted.

87. The whole of the relaying was checked by Mr. E. A. Rampezzotti who supervised the work throughout the field season.

88. The total expenditure on this work is met by deposits made by the Bijni and Gouripur Raj.

RELAYING THE BOUNDARY OF TARIA PARGANA.

Goalpara District.

89. The programme consisted of the relaying of the boundary of Taria Pargana and the interior boundaries of its villages according to Mr Bedford's survey of season 1842-43.

90. The pargana consists of one large block 10·53 square miles in area and 13 detached villages, falling from two to ten miles from the main block; the total area of the latter is 9·41 square miles.

91. On examining the data and maps of Mr. Bedford's survey of 1842-43 with a view to preparing a map from which the boundaries could be relaid it was not found possible to make use of his traverse data, as the work had not been referred to a geographical origin nor were any connections made to Great Trigonometrical Stations; in consequence it was decided to simply use the original map. The data and maps were obtained but the parties interested in the work requested that a four inch = one mile scale map of Bedford's survey, which was in the office of the Deputy Commissioner of Goalpara, should be used for the relaying work; we therefore used that map.

92. The method adopted to obtain a plan by which the boundaries could be relayed was to make a perfectly new Traverse survey of the boundaries shewn in Bedford's map connecting to Great Trigonometrical Station and running the traverses along old *bands* or embankments, considered to be in exactly the same positions in which they were at the time of Bedford's survey; traverse stations were embedded at the trijunctions of interior villages, and at the same time offsets (by means of optical squares and chain measurements) were made from the traverse lines to the existing boundaries as pointed out by local people; thus a plan was obtained of the main block and all its scattered villages, which gave the correct positions of all the polygons with reference to each other and showed the boundaries or portions of boundaries which were accepted boundaries at the time of traversing and considered to be in the same position as they occupied at the time of Bedford's survey.

93. On a trace of Mr. Bedford's map of 1842-43, (which was obtained from the office of the Deputy Commissioner, Goalpara) being fitted over the plan referred to above, portions of boundaries and details were found to agree remarkably well, if taken block by block; but if two or more blocks were considered together, the boundaries of the others would shift in azimuth; this is probably due to the accumulation of errors in the bearings of Bedford's survey; in consequence, each block had to be considered separately in the fitting processes, and the boundaries were thus transferred from the original to the plan.

94. We thus obtained Bedford's boundaries with reference to our traversing and it only remained to take offsets from our traverse lines to the boundaries transferred from the plan and relay the points from our traverse on the ground.

95. The strength of the field establishment detailed to do this work was two traversers, four tindals, two mates and fourteen khalassies.

96. Work was commenced on the 28th November 1909, and the temporary demarcation of all the boundaries completed on the 29th June 1910.

97. Shortly after the relaying of the boundaries was started, some of the interested parties appeared to think that the map for relaying had been incorrectly prepared because the marks which were embedded to temporarily demarcate the lines did not fall in many places on some low embankments which hitherto apparently had been accepted boundaries and had been considered to be in exactly the same position which they occupied at the time of Mr. Bedford's survey in 1842-43; along the south bank of the Gadadhar River, where we were to relay the bank of the river, the marks fell in the river; the matter was referred to the Officer-in-charge of the Detachment and Mr. Judd proceeded to Gauripur on the 14th April 1910, and there met Mr. C. K. Sen, an arbitrator appointed to decide all disputes between the

interested parties; *viz.* :—The Dewan of Gauripur, the Dewan of Parbatjoar and Mr. Moran, Executor (five annas Estate Parbatjoar). Mr. Judd explained at length the method which had been adopted in preparing the plans and all parties appeared to be quite satisfied that a more correct map for relaying could not be prepared with the data and maps at our disposal; later on it appears to have been decided to accept the boundaries as relayed, with slight modifications which might be made by the arbitrator.

98. Mr. Bedford's original map received from the Superintendent, Map Publication Office, Calcutta, and that received from the Deputy Commissioner, Goalpara, do not quite agree; there are differences along the boundaries and one polygon, Bhelakoba, shewn in the Deputy Commissioner's copy, does not appear at all in the map received from the Superintendent, Map Publication Office. The probable errors in Bedford's Traverse work have already been referred to.

99. The question as to whether a portion of the Gadadhar River, north of Nyeerkotee, was included in the Taria Pargana or not was raised by the Dewan of Parbatjoar, but according to the closed border in Mr. Bedford's map it is excluded from the main block of Taria Pargana; in addition the area of the main block of Taria Pargana, *vide* Mr. Bedford's traverse tables, is 6,284·41 acres and if this piece is included with the remainder of the block the area by planimeter comes to 6,347·40 acres. I understand that this question will be decided by the Arbitrator.

100. 154 miles of traversing was done, 22 azimuths observed and 20 used. 867 Angular observations were made.

101. The areas of the blocks according to our traverse and the plan prepared for relaying (obtained by taking the Universal Theorem areas *plus* offsets) are as follows :—

	Acres.	Decimal.
1. Dharam Sala	790	09
2. Jhoun Kuti	232	54
3. Sun Badda	200	73
4. Khali Sakuri	407	05
5. Kedar	1,115	70
6. Bahar Kedar	637	88
7. Chota Kedar	35	07
8. Soalmari Salundanga	1,537	90
9. Bhawan Danga I	460	18
10. Bhawan Danga II	9	20
11. Bhawan Danga III and IV	396	45
12. Bhawan Danga V	63	68
13. Taria Main block including Bhelakoba excluding Gadadhar river	6,678	95
Total ...	12,565	42
14. Bhelakoba excluding Gadadhar river	388	17
Total ...	12,177	25

And the areas of these according to Mr. Bedford's traverse tables as follows :—

	Acres.	Decimals.
1. Dharam Sala	794	15
2. Jhoun Kuti	235	20
3. Sun Badda	199	40
4. Khali Sakuri	399	00
5. Kedar	1,109	90
6. Bahar Kedar	639	80
7. Chota Kedar	36	50
8. Soalmari	1,549	43
9. Bhawan Danga I	456	25
10. Bhawan Danga II	10	25
11. Bhawan Danga III and IV	401	00
12. Bhawan Danga V	63	75
13. Taria Main block excluding Bhelakoba and Gadadhar river	6,284	41
Total ...	12,179	04

There are slight descrepancies but these are unavoidable as the scale used is small; further the maps may have become slightly distored and besides this it is apparent that Mr. Bedford's traversing was not very accurate. Considering these matters the results obtained are unexpectedly close.

102. Three principal Great Trigonometrical Stations were connected with and the values of all these have been used for correcting the traversing. The linear error per mile in traversing works out 2·432 feet per mile.

103. The origin of survey is the intersection of Longitude E. 90°-30′ and Latitude N. 26°-30′ which has been retained as the origin for the whole of the Goalpara District. A correction of 2′-27″·18 has been applied to the Longitudes of all Great Trigonometrical Stations to bring the work into terms of the latest value of Madras and for the purpose of obtaining the convergency for observed bearings.

104. Traces of the four inch maps from which the relaying has been done have been supplied to the arbitrator, together with such other particulars as he required. He has requested the Deputy Commissioner that a traverser be sent in the ensuing field season to survey and shew all pillars or permanent marks which are erected for the permanent demarcation on the maps from which the relaying has been done; he has been asked to complete the permanent demarcation by the end of November 1911, so that the work which remains to be done by us may be taken up early in the coming field season.

105. A European Assistant supervised this work throughout the season and checked the whole of the temporary demarcation which was done.

106. The total expenditure for this work is met by deposits by the Gauripur and Parbatjoar Raj.

SHILLONG RESERVED FORESTS.

107. During the year the survey on the four inch and six inch scales of several forest blocks near Shillong was commenced. A full description of this work will be given in my next annual report.

SHILLONG TOWN SURVEY.

108. A survey of Shillong Town was commenced by the Assam Traverse Section in 1908 whilst that section worked under the orders of the Director of Land Records. It was originally proposed that the maps should be contoured, but owing to the urgent necessity for maps showing new roads,&c., the contouring was not taken in hand until after I took over this Section. The Director of Land Records had to content himself with the issue of preliminary maps which showed all detail except contours. The scale used was 24 inches to one mile. Amongst the records of the Section taken over by me were the ground plans executed by Mr. Bose under the orders of the Director of Land Records.

Commencing work in October 1909 the necessary traversing and levelling for the production of contoured maps was commenced; it had been hoped that a revision of the contouring work which existed on the old maps would meet the case, but when it was found that changes in heights, due partly perhaps to the earthquake of June 12th 1897, had rendered revision work impossible, the question of a re-survey arose; its cost was considered prohibitive and so the work was abandoned.

In case hereafter it should be decided that a re-survey on a large scale should be executed, the traverse stations have been preserved by the heaping over of them by small mounds of stones.

DACCA TOWN SURVEY.

109. At the request of the Chief Engineer a 16 inches = one mile survey of the new civil station at Dacca was executed; the survey covered an area 3·7 square miles. In addition maps on the six inch scale are required covering the area which falls within a radius of five miles from the new civil station; the traverse survey of 41 square miles of this area was carried out and the detail survey is about to commence.

110. The new civil station falls on four sheets and these are being reproduced in colours in the Shillong Drawing Office.

111. The work remaining to be done to give six inch maps of the whole area covered by the five miles radius is :—

(*a*) Reduction of the 16 inch maps of the Civil Station made in this year.

(*b*) Reduction of the large scale sheets of the old Dacca Town Survey, executed by the Dacca School of Engineering.

(*c*) Detail survey of the 47 square miles referred to in paragraph 109 of this report.

(*d*) Preparation of fair maps compiled from the detail referred to in (*a*), (*b*) and (*c*) above.

112. The cost of this work is debitable to Provincial Revenues.

CHANDIPUR DISBUTE.

District Malda.

113. The programme consisted of the traversing and demarcation of the boundaries of villages Shabazpur Arazi and Doani Mal Taufir by the *diara* survey of 1866-67. The boundaries covered about 13 linear miles.

114. A trace showing the boundaries demarcated with the marks erected along them was sent to the Collector, at whose request the work was taken up initially.

RE-DEMARCATION OF THE JALPAIGURI-BHUTAN BOUNDARY.

115. This work was referred to in paragraph (61) of my last report; the demarcation is now finally completed and I am writing a full report which will be published separately. This boundary is of great importance and my report is being written in such a way that it will contain all the information which will be required for the finding of the boundary in the future if at any time portions of it may become lost.

PART IV.

MISCELLANEOUS OFFICE WORK.

116. During the year it was finally decided that certain extracts from the traverse volumes which result from all Major Settlements should be copied and should become an integral part of the final records handed over to the District Officer by each Settlement Officer.

Our orders have been taken to carry retrospective effect and the result has been a very heavy increase in the recess work of the Department By dint of much overtime work we have copied the greater part of what is required and it is hoped that, before my next report is issued, we shall be quite up to time in respect of this copying work.

117. The expenditure on this work forms a part of the general costs of the Traverse Survey and it should be noticed that its effect will be to enhance cost rates slightly, but the advantages gained from the copies made far outweigh the comparatively small cost which the copying work entails.

THE COMPARISON OF THE BOUNDARIES OF MODERN VILLAGES WITH THOSE OF THE OLDER SURVEYS.

118. In its review of my report for last year, with reference to paragraph 14 of that report, the Board remarked that the question of comparison between old and new boundaries was under discussion. It has since been decided that it is only when special orders are issued, and for areas which are commonly known as *diara** or *chur* lands, that such comparison shall ordinarily be made.

Orders were issued for the necessary comparison in the Bakarganj District in which work under Act IX of 1847 is to take place; but, owing to the large areas involved, it was decided to deal first with the river bed areas which fall in the strip between the high banks of the Padda River between the Faridpur and the Dacca Districts.

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* The sphere of action of a river flowing through plains of silt or sand.

As will be seen later accurate comparison is a slow and tedious operation, and it has been with the greatest difficulty that plans of this area have been produced. These plans show the Revenue Survey Boundaries and also those of the Survey just completed by the Settlement Department; the Director of Land Records kindly lent me the services of Mr. Newton, Technical Adviser to the Settlement Officer of Faridpur, and it is immediately under his supervision that the comparison has been made on lines laid down by me before I went on leave.

119. It is very advisable that the methods by which the comparison has been made should be recorded so that the comparative maps may be safe from unnecessary challenge hereafter. In my description I have avoided technicalities as far as it possible to avoid them and I have only attempted to explain the general lines on which the comparison was carried out.

120. An accurate comparison is a matter of difficulty for two main reasons :—

(*a*) The Revenue Survey maps are many years old; they have been carefully kept in a climate which militates against paper being unaffected by dampness and other causes of distortion but despite the care bestowed upon them they are now often distorted to an appreciable extent.

(*b*) The Revenue Surveyors executed detail surveys upon theodolite traverses and these traverses cannot always be directly referred to the origins of survey adopted in modern traverse work. We find the following different sets of circumstances :—

(*i*) The origin used in the Revenue Survey may be unknown geographically or upon the ground.

(*ii*) Connections were or were not made to Great Trigonometrical Stations.

(*iii*) The traverse work in two adjoining districts is not connected.

(*iv*) Usually no corrections of any sort are applied to the traverse data of the Revenue Surveys; such corrections must have been used but to what extent they were applied is not generally known nor do we know exactly where they were applied.

121. The first difficulty (distortion of paper), has been eliminated by the re-plotting of the Revenue Survey Traverse work, on the four inches scale, and onto this new plot, village by village, boundaries have been transferred from the Revenue Survey Volumes. By this means the distortion in the plan of any one village has been reduced to a negligible, and usually inappreciable, extent.

With regard to the second difficulty it will only be necessary here to discuss the actual difficulties met with in the case of the Dacca-Faridpur *diaras*.

In that area the old traverse work is connected across the river, its origin is not known, and it is not tacked on to the Great Trigonotmetrical Triangulation. The means used to obtain fitting points was to make a rough comparison between the old work and the new and to find a number of village trijunctions which were used as traverse stations in both surveys and which did not appear to have been changed appreciably by recent or old changes in possession; a considerable number of these points were selected and they were naturally found on the fringe of high land on each side of the river bed. There was, however, no real certainty that these apparent co-incidences were actual coincidences.

The direct distances, by the old and modern traverses, were computed between any two selected points, and the results compared; a working rule was accepted by which if the distances differed by more than 1½ Gunter's chains then at least one of the points was sufficiently doubtful to render its rejection necessary.

A continuation of this policy gave a number of rays which agreed within 1½ chains by the two measurements and a development of it led to a number of triangles being found, their apices being stations apparently common to both surveys, the error on any one side never exceeding 100 feet, an amount negligible in the lengths of the lines accepted as sides to the triangles both on the ground and on the maps. Bases, or sides of triangles, sometimes extended to eight miles in length.

Using the fitting points obtained in the manner suggested above it was found possible to plot the Revenue Survey traverse stations wherever necessary on four inch plots made from modern traverse co-ordinates reduced from the origin of survey, and thereafter to transfer the Revenue Survey boundaries on to a modern map. In most cases it was possible to transfer direct without resorting to further plotting.

It is probable that it would be better to supersede the 1½ chains working rule referred to above by a formula which has definite relation to the length of the lines compared; in future comparisons this point will be taken fully into account.

122. In a large number of cases the results obtained by the comparison were very close; speaking generally I am inclind to think that the whole comparison gives results that average an error of about nine feet per mile in direct distances taken in any direction. Between Great Trigonometrical Stations, by modern Revenue traverses, our errors in direct distance often average six feet per mile; in other words we may assume that the comparison is not only as accurate as is likely to be found possible scientifically or otherwise, but that it is as accurate as practical conditions at present require.

123. The comparison so far carried out is probably as difficult a case as we are likely to find, and it may now be accepted that wherever comparisons are required they can be carried out, the procedure detailed above being modified to meet the requirements of each individual set of conditions.

Part V.

REPORT ON THE SHILLONG DRAWING OFFICE.

124. In paragraph 86 of my last report I explained that the Drawing Office work of the Department for the Survey Year 1908-09 had been carried out in three different offices. During this year all the work reported upon has been dealt with in the new office which was established in Shillong.

STANDARD MAPPING.

125. In paragraph 87 of my last report I stated that the Surveyor-General had not decided whether or not a Standard Mapping Section should be established, under my control, in Shillong. He has since pointed out that with the probable location in Shillong of the full offices of a Superintendent of Topographical Surveys it will not be necessary for my establishment to deal with any Standard Mapping. The Superintendent of Topographical Surveys, Eastern Circle, in whose area this Province falls, has not yet been installed in Shillong but I am told that his Drawing Office will be opened here shortly and I take it that that office will compile preliminary editions of Standard sheets from our data and detail as we supply it, from time to time.

TRAVERSE CHARTS.

126. The Surveyor-General decided, in his letter No. 3468, dated 10th November 1909, that we were to make no traverse charts for the present. I am so arranging my Thana Mapping work that, if it is hereafter decided that we should make Traverse Charts, the necessary compilation will be possible at a minimum of trouble and expense.

TRIJUNCTION MARK MAPS.

127. None of these have been made during the year (*vide* next paragraph).

THANA MAPS.

128. In paragraph 91 of my last report I mentioned that the method of preparation of these maps was under discussion. It is still in abeyance, but now that it is known that we are not to make Standard Maps and Traverse Charts, the matter is on the point of settlement. It is proposed that a conference meet in a few days to finally discuss the matter, and I have arranged that there shall be no delay in the publishing of these maps when final orders regarding their preparation are issued. The making of trijunction mark maps is being dealt with in the proposed rules for the preparation of Thana maps.

REPRODUCTION OF VILLAGE MAPS.

129. In paragraph 92 of my last report I mentioned that it was a basis of organization of the Drawing Office in Shillong that 400,000 Village Map reproductions should be dealt with each year, and I also mentioned that the infall of Cadastral Maps, for reproduction, had been small; with regard to the former statement I am glad to say that we are now in a position to meet a demand of 400,000 copies of maps and in addition all the incidental map printing outturn required for the Province; with regard to the infall of Cadastral Maps for reproduction the position is much the same as it was last year; instead of an outturn of 400,000 copies we have actually issued 82,944; we can only issue the number which the office is capable of printing if we receive sufficient material, *at a steady rate of influx*, from the Settlement Department.

I drew attention to the absolute necessity of a steady programme on page 16 of my last report and during this year the Director of Land Records kindly drew out an expected programme of maps that should have been received in the Drawing Office for final reproduction; by his figures between April and September, both months inclusive, we should have received 1960 sheets from ihe Major Settlements and these would account for about 137,200 copies of maps; our actual receipts up to the end of this year are 216 maps and we are therefore, at the end of this year 1,744 maps or 122,080 copies in arrears.

The Director of Land Records' forecast for the last six months of this Financial Year is 2,900 sixteen inch sheets, which will account for about 2,03,000 copies. In other words to meet requirements and avoid failure in this Financial Year, assuming that the Settlement Department will be able to pull up its arrears of supply during the year, I must be prepared to issue about

three quarters of a years' expected outturn in the last half of that year. If there is further delay in the receipt of the maps it will be not improbable that I may have to attempt to deal with the bulk of the year's supply in the last three months of this Financial Year.

In paragraph 9 (*f*) of my last report I stated that I did not consider that any failure in the programme of reproduction work was likely to occur and I reiterate this statement now because I feel sure that the arrangements which the Director of Land Records has already made will, with any orders that he may now be able to give, in a few months time, so re-adjust the situation as to ensure steady programmes in the near future.

130. The statement below gives details of the Cadastral maps printed for the Settlement Department :—

District.	No. of villages.	No. of sheets.	Copies printed.	REMARKS.
Darrang	176	190	2,128	
Bakarganj	317	393	30,611	
Kamrup	489	567	9,390	
Faridpur	348	535	18,105	
Lakhimpur	800	840	1,680	
Nowgong	140	147	6,000	
Chittagong	576	758	4,567	
Jalpaiguri	52	117	2,780	
Sylhet	126	103	6,075	
Dacca	1	1	1,000	
Mymensingh ...	14	14	608	
Total ...	3,039	3,665	82,944	

131. For Departments other than the Settlement Department 85,965 maps were printed and supplied. The years outturn is therefore 168,910 maps against 123,195 in 1908-09 ; of these the outturn for the Settlement Department was 82,944 against 72,886 in 1908-09.

132. It is interesting to note that most of the Departments of Government are making considerable use of this section of the Drawing Office and their demands are certain to increase. In one month during this year about 18,000 maps were printed for outside Departments.

Captain Cotter has been paying particular attention to this point, and at my request, whilst I was at home, he has interested the Director of Public Instruction in the possibility of a great amount of his school map printing work being executed by us ; a rough scheme has been prepared to show the amount of help that can be given to the Director of Public Instruction and it is hoped that formal proposals will be issued shortly. It seems possible that it is not only in the direction of the compiling and printing of school maps that we shall be able to help the Director of Public Instruction but it may be remarked that the greatest care will be taken to avoid any encroachment upon the legitimate spheres of work of private firms.

133. The table below shows the outturn of maps etc., for Departments other than the Settlement Department; it will be noticed that practically every Department of Government is included in that list:—

Department.	No. of plans.	No. of copies.
Public Works Secretariat	82	13,277
Press „ „	144	44,264
Superintending Engineer, Assam Circle	48	3,495
„ „ Eastern Bengal Circle ...	11	1,800
Director of Agriculture	5	360
Inspector General of Police	42	12,318
General Department Secretariat	2	1,550
Municipal Department Secretariat	1	375
Political, Criminal Investigation Department... ...	4	270
Director of Public Instruction	5	1,350
Assistant Settlement Officer, Faridpur	1	1,000
Director of Telegraphs	2	40
Brigade Major, Assam Brigade	3	160
Sanitary Engineer	2	300
„ Commissioner	2	252
Inspector General of Civil Hospitals	1	730
Superintending Engineer on special duty	28	3,455
Conservator of Forests, Eastern Circle	3	970
Total ...	386	85,966

Many of these maps, &c., were reproduced in colours and the number of *pulls* was probably about twice the number of *copies* shown in the table. The cost of this extra departmental work is debited by book transactions to the Departments concerned; this method is the same as that adopted by the Surveyor-General in his Reproduction Offices and in the case of my Department it reduces the amount of cost &c., for control and supervision which under other circumstances might become debitable to Settlement costs.

134. I have dealt with the installing of the machinery &c., mentioned in paragraph 96 of my last report in paragraph 7 (*i*) of this report.

135. This section has also printed about 19,000 forms for use in the Survey Department.

136. I cannot at present give final figures for amounts realized by this Section in book debit and other charges; their total is about Rs. 9000. Taking into account the fact that 75 per cent of the expenditure upon Cadastral Map Reproduction for Eastern Bengal Districts is recoverable at the close of Settlement Operations we can now look upon this section of the Drawing Office as being well upon its way towards self support.

BADAR SECTION.

137. During the year the *badars* of 20 villages of District Chittagong and of 29 villages of District Bakargang were received and the necessary corrections were carried out in the original maps. In addition this section carried out the examination of 241 sheets of 45 villages of District Chittagong, as well as a considerable amout of miscellaneous work.

138. I rather doubt if we should retain a *Badar* Section in the Drawing Offiice; in my budget estimate for 1911-12 I have reduced my request for money considerably and I will, in consulation with the Direcor of Land Records, see how for it is possible in the near future to abolish this section.

MAP RECORD SECTION.

139. In paragraph 98 of my last report I mentioned that 14, 579 Cadastral Maps had been taken over from the Bengal Drawing Office but had not been racked. During the year fire-proof racks were installed in the Record Room and all the maps in my hands have now been placed in them. The total number of maps stored in the Record Room is now 17, 883.

140. During September 1909 the Hon'ble Mr. Lyon, C.S.I., Member of the Board of Revenue, visited the Record Section and made several suggestions regarding the cataloguing and arranging of the maps. These suggestions will be carried out.

141. At the time of report the old Revenue Survey Volumes of the Province are being taken over, in batches, from the Surveyor General. It is intended that they should be kept permanently in my record room.

CHAPTER III.

PART I.

TOURS OF THE DIRECTOR OF SURVEYS.

142. I was on tour from the beginning of November 1909 until I handed over to Captain V. R. Cotter, I.A., on December 2nd 1909, and proceeded home on leave. Captain Cotter remained on tour throughout the field season, making occasional visits to Shillong; he also visited the Head Quarters of the different Major Settlements during the rains of 1910.

All sections of the work were visited at least twice either by Captain Cotter or by me.

PART II.

SERVICES OF OFFICERS.

143. Captain V. R. Cotter, I.A. acted for me from December 2nd 1909 to 8th September 1910. He has exhibited great zeal, has done much hard work and in every way has fulfilled my expectations of him as a capable officer. His work in the installing of the machinery in the Drawing-Office is deserving of very special mention.

144. P. C. H. Smart, as the Officer in charge of the Drawing Office, has done very good work. He retired on the 15th September 1910 after completing 32 years and four months service in the Survey of India and in this Department. His place has been taken by Mr. A. B. Smart who, in the few days that he has served in this Department has shown that he is an officer of great energy.

145. Mr. O. E. C. Judd has shown much ability in the handling of difficult relaying work and in the management of No. I Traverse Detachment; Mr. C. A. O'Donel as the Officer in charge of No. II Traverse Detachment has worked very well. The remaining officers have done good work.

146. I am bringing the services of the Indian Establishment to the notice of the Board in a separate communication.

I have the honour to be,

SIR,

Your most obedient Servant,

F. C. HIRST, CAPTAIN I.A.,

Director of Surveys,

Eastern Bengal and Assam.

APPENDIX I.

PART A.

Summary of outturn of work of Survey Units in Eastern Bengal and Assam for 1909-10.

DISTRICT.	TRAVERSING.				
	No. of villages.	Linear miles of chaining.	No. of Stations at which theodolite was set up.	No. of Azimuths.	No. of Sub-traverses.
1	2	3	4	5	6
Jalpaiguri	*425	2,865	16,452	116	1,095
Mymensingh	846	3,234	22,076	122	849
Dacca uplands (relaying) ...	1,419	2,605	17,836	...	480
Lakhimpur	†159	512	3,565	23	‡59
Dacca-Tippera *Diaras* ...	82	367	1,345	11	52

* Taluks.

† Includes 11 waste land tea grants.

‡ Includes 22 connecting lines.

NOTE.—Petty surveys are omitted from this table.

F. C. HIRST, CAPTAIN, I.A.,
Director of Surveys,
Eastern Bengal and Assam

APPENDIX I.

PART B.

Statement of outturn and cost rates.

District and Estate.	Description of work.	Estimated area to be dealt with, in square miles.	Year of inception of operations.	AREA SURVEYED, IN SQUARE MILES.		COST RATE PER SQUARE MILE.		Balance area remaining to be surveyed.	Estimated cost of completing area in column 9.	Estimated final cost rate per square mile.	REMARKS. (Explanation of unusually high expenditure.)
				During the year under report.	Total including previous year.	During the year under report.	From beginning to end of year under report.				
1	2	3	4	5	6	7	8	9	10	11	12
									Rs		
Jalpaiguri	Traverse ...	* 2,972	1905	559	2,972	98·6	93·8	...	...	93·8	High rate due to constricted programme which was not compact.
Mymensingh	„ ...	6,332	1907	852	2,605	57·4	54·2	3,727	2,02,003	54·2	
Dacca uplands ...	Relaying ...	† 2,782	1905	‡ 542	542	25·8	34·9	2,240	78,176	34·9	
Lakhimpur	Traverse ...	360	1907	89	254	...	...	106	...	...	Work very scattered so cost rates have not been applied.
Dacca-Tippera (*diara lands*).	„ ...	¶ 781	1908	127	781	53·1	48·8	...	...	48·8	
Total ...	...	13,227	...	2,169	6,595	...	...	...	...	...	

* Excludes areas outside the Jalpaiguri and Cooch Behar boundaries.

† Includes certain *diara* areas for which separate figures are not yet available.

‡ Includes fifty square miles shown in last report.

¶ Includes certain areas in Pabna and Faridpur.

F. C. HIRST, CAPTAIN, I.A.,
Director of Surveys,
Eastern Bengal and Assam.

APPENDIX II.

Statement of sums expended for the year ending 30th September 1910.

District, &c.	Description of work.	Expenditure incurred during the year under report.				Total expenditure from inception to end of the year under report.			
		Actual (direct charge.)	Share of Director of Surveys, pay and his office.	Four per cent charge for instruments.	Total.	Actual (direct charge.)	Share of Director of Surveys, pay and his office.	Four per cent charge for instruments.	Total.
1	2	3	4	5	6	7	8	9	10
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Jalpaiguri (Government Estate) ...	Traverse ...	43,794	11,320	...	55,114	1,92,341	28,467	5,557	2,26,365
Goalpara, relaying boundary of Adardia and Srijangram ...	„ ...	3,970	1,323	...	5,293	3,970	1,323	...	5,293
Goalpara, relaying boundary of Pargana Taria and its villages ...	„ ...	4,394	1,465	...	5,859	4,394	1,465	...	5,859
Kamrup-Goalpara boundary relaying, Parganas Habraghat and Khutaghat	„ ...	3,343	1,114	...	4,457	4,376	1,307	34	5,717
Mymensingh	„ ...	39,029	10,058	...	49,087	1,17,897	20,491	2,856	1,41,244
Faridpur, Pabna, Dacca and Tippera *diaras*	„ ...	6,642	104	...	6,746	32,410	4,920	797	38,127
Dacca relaying	„ ...	13,761	217	...	13,978	17,793	971	162	18,926
Bakerganj and Faridpur, preparation of four inch comparative maps ...	„ ...	1,532	24	...	1,556	1,532	24	...	1,556
Maldah dispute, (two annas Chandipur Estate)	„ ...	1,301	21	...	1,322	1,301	21	...	1,322
Lakhimpur	„ ...	15,906	251	...	16,157	37,432	2,467	...	39,899
Shillong Town Survey	„ ...	7,911	125	...	8,036	8,396	216	...	8,612
Dacca Town Survey	„ ...	4,867	77	...	4,944	4,867	77	...	4,944
Eastern Bengal and Assam Drawing office	Record Section ...	5,618	1,111	...	6,729	19,106	4,100	...	23,206
	Badar Section.	1,818	360	...	2,178	5,966	945	27	6,938
	Reproduction of village maps, &c. ...	58,061	11,485	...	69,546	1,10,591	19,136	...	1,29,727
	Thana trijunction mark maps, &c. ...	4,830	955	...	5,785	9,407	1,917	...	11,324
	...								
Total ...		2,16,777	40,010	...	2,56,787	5,71,779	87,847	9,433	6,69,059

F. C. HIRST, Captain, I.A.,
Director of Surveys,
Eastern Bengal and Assam.

Shillong,
The 18th October 1910.

No. 122-177.

FROM

THE HON'BLE MR. N. D. BEATSON-BELL,
C.I.E., I.C.S.,
DIRECTOR, DEPARTMENT OF LAND RECORDS,
EASTERN BENGAL AND ASSAM,

TO

THE SECRETARY TO THE BOARD OF REVENUE,
EASTERN BENGAL AND ASSAM.

Dated Dacca, the 9th January 1911.

SIR,

I have the honour to submit a report on the work in this department during the year beginning on 1st October 1909 and ending 30th September 1910. When the year opened I was absent on leave and Mr. Dixon was officiating as Director. I returned from leave in November 1909 and was placed on special duty up to the Christmas Vacation. I then resumed charge as Director and held the post until the close of the Settlement year. I toured continuously from January to May and made a further tour in the rains. Throughout the year the official headquarters of my office were at Shillong. Shortly after the close of the year the headquarters have been removed to Dacca. My ministerial establishment and my records are now located in the new Secretariat buildings. The removal cost Rs. 950.

2. In Appendix A will be found a statement showing how far the various districts have already been supplied, or are now being supplied, with surveys and record-of-rights. On 30th September 1910 the maps and records were either complete or under preparation in 38 per cent of the area of Eastern Bengal and in 26 per cent of the area of Assam. These figures exclude the area for which only traverse survey had been carried out. In calculating the total area of the Assam districts large stretches of waste land have been included. For these areas detailed maps and detailed records are still unnecessary. For practical purposes the outstanding area in Assam consists of 6,353 square miles of permanently settled estates in Goalpara and Sylhet. The outstanding area in Eastern Bengal consists of 24,699 square miles, all suitable for more or less detailed operations.

3. As was done last year, I have divided this report into two parts. The first part relates to the year's work in the individual districts. The second part relates to matters of general application.

PART I.

4. I first take up the larger settlements in Eastern Bengal, which are supervised by special officers and are financed from Imperial sources. I begin with the premier settlement, namely, Bakarganj. The work in Bakarganj was undertaken ten years ago and is at last coming to a close. During the year under report the judicial case work, including the appellate work of the Special Judge, was practically completed. Only six appeals under Section 105 and one appeal under Section 106 were shown as outstanding on 30th September 1910. This year the Special Judge reversed the finding of the

Revenue officers in five per cent of the cases under Section 105 and in 26 per cent of the cases under Section 106. There were also cases in which the decisions of the Revenue officers were modified or in which re-trials were ordered. Mr. Jack is now preparing his final report and is analysing the judicial findings.

In the recovery of costs the proceedings are also approaching completion. A sum of Rs. 85,975 was realised during the settlement year. On the date of writing this report out of a total demand of Rs. 16,46,000, more than 98 per cent had been realised. In only two or three cases had any tenancy been put up to sale.

Supplementary proceedings for the revision of land revenue were also in progress during the year. In the difficult case of the Marichbunia estates an important opinion has recently been received from the Advocate-General dealing with the subject of the merger of tenures and the applicability of the special powers conferred on Government by Section 3 of Regulation VII of 1822. The cases concerned will now be disposed of on the basis of this ruling and the remaining work of reassessment will also be completed within this financial year. In Bakarganj the diara proceedings under Act IX of 1847 will be treated as separate proceedings under the supervision of the Collector. These proceedings will begin in the current field season.

The settlement operations in Bakarganj will be wound up on or before 31st March 1911 and the record will be accommodated on iron racks in suitable rooms in the Collector's office building. It will remain there until the completion of the Collector's new record room which will accommodate both the settlement record and the existing records of the Collector. It is very satisfactory that this arrangement has been made. If the settlement record had remained much longer in the present office it would have suffered severely from damp.

5. In Faridpur the work was completed up to the stage of draft publication, both in Faridpur proper and in the riparian zones of Pabna and Tippera. In the riparian zone of Dacca the work was carried to the stage of field bujharat, the remaining stages being transferred to the Settlement Officer of Dacca.

In Faridpur the Settlement Officer is devoting much attention to the work of objections under Section 103-A. During the year under report 14,739 of these objections were disposed of. Good progress was also made in the work of "Final Scrutiny." The recent Government orders by which cess-revision and partition may be carried out by Settlement Officers (*see* paragraphs 25-26 below) have an important bearing on the operations in Faridpur. Mr. Jack will have heavy work in connection with these two branches. It will be impossible to do much in the printing of the record until the cess has been revised and the partitions have been effected. The main printing presses, however, have not yet arrived from London and it is expected that soon after their arrival the Settlement Officer will be in a position to supply them with an even flow of records complete in all particulars, including the changes caused by cess-revision and partition.

In Faridpur there will be a considerable amount of work in connection with the revision of land revenue. The current demand of the estates which will be selected for revision by the Settlement Officer is about one lakh of rupees. This work had not begun in the settlement year under report, but Mr. Jack hopes to complete most of his enquiries and to submit most of his proposals before September 1911. In modification of the procedure in Bakarganj it is proposed that in Faridpur the Settlement Officer should carry out the diara proceedings under Act IX of 1847 along with his other proceedings for the revision of Land Revenue. This also forms part of the Faridpur programme for the current settlement year.

6. The long-delayed work in Dacca was begun in the year under report. A general programme and estimate was submitted to the Government of India with the Local Government's letter No. 1529-R., dated the

5th July 1910 and was approved by the Government of India in their order No. 1015, dated the 21st September 1910. It is proposed that the work should be carried out in four "blocks" and that the average cost should be one rupee per acre. Correspondence, however, is still in progress regarding the adjustment of the cost of the 1,638 square miles of premature traverse survey to which I alluded in paragraph 8 of my Annual Report for 1906-07. Mr. Ascoli has been appointed as Settlement Officer of Dacca and an order under Section 101(*f*) of the Bengal Tenancy Act has been issued for the whole district in Notification No. 2601-R., dated the 12th November 1910. During the year under report preliminary arrangements were made for the first season's work. That work is now in progress. It includes 529 square miles of cadastral survey and Khanapuri, chiefly in the Manikganj Subdivision, as well as 121 square miles of attestation in the zone already surveyed by Mr. Jack (*see* paragraph 5 above).

7. Steady progress was made in the huge work of surveying and recording the lands in the district of Mymensingh—a district with a population as large as Ireland and with agrarian problems quite as difficult.

The cadastral survey, khanapuri and bujharat of the second block were successfully carried out. The agency employed was again chiefly composed of locally-recruited patwaris.

The attestation and draft publication of the first block were also practically completed. The outstanding area consisted of 42 villages in which it was found more convenient to postpone the work until the present field season. At the beginning of the attestation season it was found that many of the tenants had adopted erroneous ideas regarding the nature of the work. Among other things they imagined that the attestation officers would not record the rents now legally payable but would proceed at once to fix fair rents; they also imagined that all payments of rent could be stopped until these fair rents were fixed. On the other hand many landlords imagined, or at least hoped, that the attestation officers would record the amounts now demanded by the landlord irrespective of their legality. In order to remove these wide-spread misapprehensions a simply worded vernacular "proclamation" was drawn up and signed by the Collector, the Settlement Officer and myself. This proclamation described the settlement operations stage by stage and gave sound advice to the tenants regarding their conduct at each stage. As many as 10,000 copies of this proclamation were distributed and I have no doubt that the effect was good.

While the work of attestation was in progress I inspected many of the camps in company with Mr. Sachse. It was found that owing to the general absence of pattas and kubuliyats, and the frequent absence of rent receipts, it was extremely difficult to ascertain the rent now lawfully payable. It was therefore necessary for the attestation officers to make considerable use of the new Section 109-B. By this section a Revenue Officer "may presume" that any agreement entered into by a landlord and a tenant is a lawful agreement. I was careful to impress upon the attestation officers that the words of the section are "may presume" and not "shall presume." I found that on the whole the attestation officers had been exercising a sound discretion and had been freely consulting the Settlement Officer in cases of doubt. In fact the section, which is peculiar to this province, was found on its first wide application to be a useful and fair section.

Whatever be the reason, the objections filed under Section 103-A. in Mymensingh are much less numerous than those filed in Faridpur. In the recess immediately following attestation the Settlement Officer and his staff were able to dispose of nearly all the objections which were instituted in Block A. One important batch of objections was however reserved for my personal disposal. This batch relates to the status of tenants, and the incidents of tenancy, in the Patiladaha zamindari. I hope to dispose of these objections in the current field season.

The difficult question of "proprietors' private lands" arose in Mymensingh. A test case was submitted to the Board of Revenue. The Hon'ble

Member was of opinion that the land in question should be entered in the final record as ordinary raiyati land and that the proprietor should be instructed to file a suit, if so advised, under Section 106.

The question of the boundary between Mymensingh and the Garo Hills has given rise to some difficulties. Comparative maps are now being prepared and a formal report will be submitted to the Board. The first point to decide is what is the correct interpretation of Section 4 of Act XXII of 1869. This act purports to define the boundary of the Garo Hills.

In Mymensingh the Collector has recently carried out a revision of Cess. In this branch of work there will therefore be little for the Settlement Officer to do. He may however have considerable work in connection with partitions.

Arrangements are now being made for printing the final record of Mymensingh. The number of tenancies per square mile is less than in Faridpur and the work of printing will be correspondingly cheaper.

Turning for a moment to the lighter side of life, I congratulate the Mymensingh settlement team on their victory in the divisional foot-ball tournament for the "Bonham-Carter Shield."

8. In Jalpaiguri the programme for the year was successfully carried out. It consisted of the cadastral survey, khanapuri and bujharat of Block C., and the attestation and draft publication of Block B. The staff also kept pace with the objections under Section 103-A. only eight being outstanding on 30th September 1910.

In the course of the year, the Local Government reviewed the general programme and estimate for the operations in Jalpaiguri, and submitted a revised scheme for the approval of the Government of India. By letter No. 1124-417-2, dated the 7th October 1910, the Government of India sanctioned a programme according to which the work should be completed by March 1914 at a total cost of Rs. 16,50,000.

The question of the nature and scale of the Tea garden maps was also examined during the year under report. In some cases four-inch maps had actually been prepared, and in other cases sixteen-inch maps. It was decided in the Local Government's letter No. 2902-R., dated the 8th December 1910, that the Manager of any Tea Garden may obtain ten printed copies of a sixteen-inch garden map in return for a payment of two annas per acre, equivalent to Rs. 80 per square mile. Where a re-survey is necessary the application must however be made at an early date in order that the re-survey may be carried out in the present field season. These sixteen-inch maps will contain the salient natural features of the garden.

There was again much discussion regarding the status of adhiars throughout the district. As far as the record-of-rights is concerned the matter was finally decided in Board's letter No. 555-S. & S./T., dated the 20th June 1910. The purport of this decision is that all adhiars who are independent in the matter of ploughs and cattle will be definitely recognised as "tenants." In private estates such adhiars will receive separate khatians and will be classified according to the Tenancy Act. In the Western Duars the names of such adhiars will remain in the special columns of the Superior khatians, but a statement of the rights of the adhiars will be incorporated in the leases of the superior tenants. During the recess of 1910 a special staff of Kanungoes was employed in revising the record in accordance with the orders of the Board.

There was further discussion regarding the demarcation of jotes and waste land leases within the Western Duars. This question was also decided during the year. The orders are contained in Board's letter No. 1041-S. & S./T., dated the 25th August 1910. According to these orders the Deputy Commissioner will now call on the holders of all jotes and leases which are not sufficiently demarcated to erect, at their own expense, suitable trijunction-marks. In the case of maljotes and leases of arable waste, a waist-high mound of earth or stone will be considered to be a suitable mark.

In the case of Tea-leases, the mark will be a masonry pillar or such other permanent mark as the Deputy Commissioner may determine. The Board also issued instructions regarding the removal of useless marks.

Another important question which came under review was that of the boundary between Jalpaiguri and Cooch Behar. It was decided by Government letter No. 1318-R., dated the 3rd June 1910, that the Settlement Officer should relay the boundary according to the maps of 1868-70, which are admitted by both sides. The Settlement Officer will carry out this work in the current field season, with the assistance of his Technical Adviser.

The most important question however which was dealt with during the year was that of the rates of rent for the new assessment in the Western Duars. The rates as finally adopted are contained in Board's letter No. 444-S. & S./G., dated the 17th November 1910, which was issued with the previous approval of Government. The present and the future rates for Jotedars are shown in the following table. The rates are rates per acre :—

	Class of Jote.	Basti.	Rupit.	Faringati.	Waste.
		Rs	Rs a.	Rs a.	Rs a.
Present rates ...	I ...	3	2 0	1 8	0 3
	II ...	3	1 12	1 6	0 3
	III ...	3	1 9	1 3	0 3

	Class of Jote.	Basti.	Dahala.	Sahari.	First class Danga.	Second class Danga.	Waste.
		Rs	Rs a.	Rs a.	Rs a.	Rs a.	Rs a.
Future rates ...	I ...	3	2 4	2 0	1 8	0 10	0 2
	II ...	3	2 0	1 12	1 6	0 8	0 2
	III ...	3	1 12	1 10	1 4	0 6	0 2

These rates relate for the present only to the "advanced" parganas of North Mynaguri, South Mynaguri and Chengmari, which at the time of last settlement accounted for 56 per cent of the total revenue. Regarding the other parganas, further proposals will shortly be submitted. It was decided by the Board that in settling fair rents in the Western Duars the Settlement Officer should follow strictly the procedure laid down in Part II of Chapter X of the Tenancy Act, including the procedure for the preparation of "Tables of Rates." The rates approved by the Board will therefore form the basis of these Tables of rates, but each tenant will have an opportunity of urging any special claims which he desires to put forward.

It was further decided by the Board that the relative assessment of Jotedars and Chukanidars should remain as before, namely, that the Chukanidars should be assessed at rates which are 50 per cent above those of Jotedars.

The Settlement Officer of Jalpaiguri has been authorised to revise cess. He will have little or no work in regard to partitions. He will probably prepare his final record in manuscript, not in print.

9. In letter No. 998-306-2, dated the 16th September 1910, the Government of India have approved of the proposal that the District of Rajshahi

should be taken up for survey and settlement after Jalpaiguri. The estimated cost is one rupee per acre. There will be three "blocks," corresponding to the three subdivisions. Work will begin in the Nator subdivision, where agrarian troubles have been most acute. The traverse survey of that subdivision will be undertaken in the current field season and the cadastral survey in the following field season. A Settlement Officer will be appointed to the district in July 1911.

10. I now turn to the smaller operations in Eastern Bengal, generally known as "Collectorate Settlements." These are financed from provincial sources and are supervised by the District Officers. As usual, the heaviest programme was in Noakhali. There was difficult case-work in the private estates of Sandip and Ram Kanta Shaha. There was also important work in the assessment of land revenue in the large Government estates of Char Jubbar, Char Iswar Rai, Char King, &c. The rent rolls which were confirmed during the year represented a Government revenue of Rs. 65,648. A special Deputy Collector was employed in the district up to 30th September 1910. The work is now being done by the Collector, assisted by a Deputy Collector of his ordinary staff and a whole-time Sub-Deputy Collector. Mr. Gupta, the Collector, gives much attention to the difficult problems which are constantly arising in settlement work in Noakhali.

11. In Tippera some small Government estates were taken up during the year, and also three private estates in which the proprietors applied for the proceedings. The chief work lies in some villages in which the Laha zamindars are the applicant proprietors. It was at first intended to complete attestation in all the estates within the settlement year. I found however after local inspection that the villages of the Laha estate were so low-lying that it was inadvisable to proceed beyond bujharat. In these villages attestation will be taken up in the current season.

12. In Dinajpur the chief work lay in the Jhargaon estate. This property is managed by the District Judge and on his application a survey and settlement are in progress. Strenuous steps were taken by the Collector and his staff with the result that the bujharat, attestation and draft publication of the estate were completed within the year under report.

13. Good progress was made in Maldah. When the year opened seven estates were on the file, all for the settlement of land revenue. In five of these estates the rent roll was confirmed and the proceedings sanctioned. The total of the new revenue amounts to Rs. 16,572. The most important case is that of Shergar Panchanandpur in which the new revenue is Rs. 15,423. The proceedings were carried out with great difficulty owing to the fact that they were instituted under Regulation VII of 1822 which gives no power for the fixation of fair rents otherwise than by private agreement. By the exercise of much tact the Assistant Settlement Officer, Babu Rash Behari Mukharji, overcame the difficulties. The two outstanding estates are "Two Annas Chandipur" in which there is a boundary dispute with Mr. Hennessy, and Harirampur in which there is a boundary dispute with some other Zamindars. It is hoped that with the help of the Director of Surveys, these boundary disputes will be disposed of during the current field season.

14. As regards Rajshahi, six villages in Natore subdivision, the property of Rai Bonamali Rai Bahadur, were being dealt with on the application of the tenants. Land Revenue was also being settled in three Government estates known as the Char Nirmal Group; these estates are borne on the Revenue Roll of Rajshahi but are situated partly in Murshidabad. In the case of the Rai Bahadur's villages, I spent some days in the estate and personally disposed of all the objections under Section 103-A. Since then the record has been finally published. In the Char Nirmal group the Assistant Settlement Officer carried the proceedings up to Section 103-A. and disposed of the objections under that section. In the current field season the settlement rent rolls will be prepared. Babu Kali Mohan Sen who was formerly the special Deputy Collector in Noakhali is now working in the Char Nirmal group.

15. In Pabna the work consisted chiefly in winding up the operations in petty private estates in which the landlords or tenants had applied for a survey and settlement. The Collector's work in the Government estates of this district has been greatly contracted by the fact that many of these estates lie either in the five-mile zone opposite Faridpur or in the five-mile zone opposite Mymensingh. The Settlement Officers of these two districts will deal with the zones concerned.

16. In Bogra a single private village (Fulbari-Ramchandrapur) was being dealt with. The work was completed with the exception of case-work under Sections 105-106. This work will be dealt with in the current season.

17. In the remaining two districts of Eastern Bengal, namely, Chittagong and Rangpur, there was no work under my supervision.

18. Turning to the Assam districts, the chief settlement work lay in Lakhimpur. The district is divided into two blocks. In the year under report map revision, chitha-writing and land classification were in progress in Block B and record attestation in Block A. The whole programme was carried out in Block A and practically the whole programme was carried out in Block B.

The system of chitha-writing which was successfully adopted in Block A was reproduced in Block B. The land-classification was simple and was carried out by the village mandals *pari passu* with the chitha-writing. When the areas had been worked out each raiyat received a draft patta containing a list of his fields, together with two boundaries for each field and the proposed classification.

The system of record attestation on a personal basis is a new departure in Assam. It was carried out for the first time in Block A of Lakhimpur. Every field which had not already been tested on the ground by an Assistant Settlement Officer or a Kanungo was now so tested. Each raiyat then appeared individually before the Assistant Settlement Officer, bringing with him his draft patta. All objections, whether relating to area, possession or classification were heard and decided by the Assistant Settlement Officer. Necessary corrections were made then and there, both in the draft record and in the draft pattas. The system worked well and was much appreciated by the raiyats.

At one time it was hoped that revenue attestation could be carried out in the same field season as record attestation. It was found however that this was impracticable. A revised scheme of revenue attestation was therefore prepared by me in consultation with the Settlement Officer. This scheme was approved in Board's letter No. 43-Res./G., dated the 23rd August 1910. The essence of the scheme is that during the recess which follows record attestation the Settlement Officer will submit Mouza Notes to the Commissioner and the Director of Land Records proposing a "central unit rate" for each Mouza. On receiving the joint approval of the Commissioner and the Director of Land Records, the Settlement Officer will determine unit rates for each cadastral village, will publish the corresponding bigha rates on the Gaonbura's notice-board, and will cause the resulting land revenue to be entered provisionally upon each raiyat's draft patta. Each raiyat will then appear before an Assistant Settlement Officer, just as he did at record attestation, and will state his objections if any to the proposed assessment. If the Assistant Settlement Officer thinks that the assessment of the village as a whole has been placed too high he will report the matter to the Settlement Officer. In the case of individual grievances he will re-examine the land-classification and will make any changes which appear to be just. He will also use the Government rules for progressive enhancement in every case to which they apply. When the revenue attestation of a circle has been completed and the Settlement Officer has arrived at his final conclusions, he will prepare a group report for that circle and will submit it in the usual way to the Board of Revenue together with the recorded opinions of the District Officer, the Commissioner and the Director of Land Records.

Mr. Milne had carried out the record attestation of Block A in an admirable manner and had prepared careful Mouza Notes for that block. At this stage Mr. Milne fell seriously ill and had to proceed on leave. He was succeeded by Mr. Mackenzie. I remained for some time at Dibrugarh, dealt with the Mouza notes in consultation with the Commissioner and explained the whole system to Mr. Mackenzie and his staff. I need hardly say that the departure of Mr. Milne is a great loss to the work in Lakhimpur, but Mr. Milne's preliminary arrangements were so thorough that Mr. Mackenzie should be able without much difficulty to carry the operations to a successful close. It will be seen that at every stage of the work the raiyats are being taken into our confidence in the fullest possible manner.

19. In Cachar the work of re-settling the Jungalbari Mahals was continued in the prescribed manner. As the Jungalbari settlements fall in, they are replaced by Mirasdari settlements expiring in March 1915. During the year under report 65 Mahals were re-settled in this manner, at a nett increase of revenue amounting to Rs. 1,176. The work is up to date.

20. In Sylhet re-settlement operations are in progress in 1,377 estates measuring fourteen square miles. These estates are composed of resumed chakran lands, alluvial accretions, and other miscellaneous estates which were not ripe for re-settlement at the time of the general Ilam operations. One of the initial difficulties in the present operations lies in the question of traverse-survey. On the one hand it is desirable as far as possible that the geographical position of all Government land in Sylhet should be scientifically ascertained. On the other hand the cost must not be disproportionate to the result gained. Captain Hirst has prepared a scheme which seems to meet the case. The scheme is now being put in operation. When I visited the district in August 1910 I noted the various points which will require consideration in connection with the assessment of these estates and the condition of the leases which will be granted. Formal proposals will be submitted to the Board in the course of the current year.

PART II.

21. I now turn to some of the general questions which have been dealt with by this Department during the year under report. Among such questions I include the maintenance of the record in both portions of the province.

22. In Eastern Bengal the practical maintenance of the record remains much where it was. In Appendix G and Appendix I will be found a statement showing the work done in recording mutations and inspecting survey-marks in the various Khas Mahals and Wards' Estates. As there is no real village agency, except in the Government Estates of Bogra, the work as a whole is perhaps as good as could be expected. The reported results, however, contain certain contrasts which at once attract attention—for example Chittagong and Bakarganj.

23. While I was on special duty in November and December I prepared a complete scheme, together with rules and forms, for the maintenance of the record in Eastern Bengal. The scheme was applicable both to private estates and to Government estates. It was founded on a system of circle officers, sub-circle kanungos, and village patwaris. The scheme would require no special legislation, being based on the old regulations which have still the force of law. There would be one patwari for each "village" as constituted under the Chowkidari Act. The patwari would be a member, but not the collecting member, of the panchayet. In order to carry out such a scheme it would be necessary to frame the Chowkidari villages in such a way that each village is a suitable "lot" for a patwari. In other words in framing a Chowkidari village the District Magistrate would have to consider

not only the number of "census-houses" which it contains, but also the number of fields and the number of tenancies. I found that the District Magistrate of Bakarganj was actually engaged upon a revision of his Chowkidari villages. I gave him my personal assistance in the Sadar Subdivision. While I was still on special duty all the "villages" of that subdivision were so revised as to be suitable either for chowkidari or for revenue work. I understand that similar action has since been taken in the other subdivisions of the district. I am persuaded that some such scheme is quite workable and that it could be introduced not only in Bakarganj but also, with necessary modifications, in all districts in which there is a record-of-rights and in which Government is prepared to appoint circle officers. There are however two practical difficulties which must be faced. The first difficulty is that of securing funds. The second difficulty is that of securing the co-operation of the landlords. At Barisal I called a meeting of landlords and lawyers with whom I had a long and friendly discussion. I found that they were unanimous in preferring a scheme based upon the Bengal Record Maintenance Act of 1895 to a scheme based upon a system of village recorders.

24. In the Assam districts the record continued to be maintained according to the system described in previous reports. The figures for mutations will be found in Appendix G. The percentage of mutations to pattas is much larger in the Surma Valley than in the Assam Valley. This is mainly due to the prevalence of "ijmali pattas" in the Surma Valley. When a patta stands in ten or twenty names there is of course much more likelihood of a mutation than when it stands in a single name. It is satisfactory to see that in both valleys the mutations by the summary procedure greatly outnumber those by the formal procedure. I find however that in some districts there is a growing tendency to attach a somewhat loose meaning to the words "verified by local enquiry." These words occur in Section 53-A. of the Regulation and are in fact the essence of that section. Some circle officers, I fear, consider that they have made a "local enquiry" when they sit on the veranda of a rest house during the rains and dispose of the mutation cases of eight or ten surrounding villages.

A very important modification of the existing system has been approved in Board's letter No. 914-Col.—T., dated the 13th July 1910. Selected Mouzadars in the Assam Valley will now be vested with the powers of Assistant Settlement Officers and will be authorised to dispose of uncontested mutation cases by the summary procedure of Section 53-A.

Both in the Assam Valley and in the Surma Valley settlement holders are allowed to transfer individual fields during the currency of a settlement. For some years there has been a discussion as to whether in such cases the field should remain in its original patta or should be transferred to the patta of the purchaser. The question was set at rest in Board's circular No. 2-S. S. of November 1910. In the Assam Valley the field will, under certain restrictions, be transferred from patta to patta; but in the Surma Valley the field will remain in its original patta, the necessary addition being made in the list of settlement holders.

In Board's circular No. 4-S. S. of November 1910, rules were laid down for the preservation of recorders' chithas. These chithas are not only important in themselves, but contain the original orders under Section 53-A. The back number of each chitha will now be preserved in the circle office until the recorder next rewrites his copy. This means that two editions of the chitha will always be available, the current edition in the hands of the recorder and the immediately preceding edition in the circle office. This will give sufficient opportunity for petitions of revision to be filed under Section 53-A.(*z*).

In Appendix F will be found the figures for extension survey in Assam. It will be seen that the chief work was in Lakhimpur, where 111 square miles of non-cadastral land were brought within the cadastral area. This work was carried out under the supervision of the Settlement Officer; but in the process of work and in the agency employed the proceedings are similar to those conducted by Deputy Commissioners. Where the Settlement Officer of Lakhimpur simply revised existing maps the results have of course been excluded from Appendix F.

Appendix H contains the results of inspecting survey marks in Assam. The system has recently been improved by the preparation of four-inch index maps which remain with the recorders, and by the revision of "Form 7." This form is now a convenient note-book which has a page for each survey mark. There is, therefore a continuous record of the history of each mark and of the inspections which are made upon it. In Sylhet the Ilam survey marks had hitherto been excluded from the returns. Recently the Board have ordered (letter No. 53-Res.—G., dated the 16th December 1910) that the trijunction marks in this area should be brought under formal inspection. In future these marks will be included in the district returns and in the Appendix to my report.

The pay of the village-recorders in Assam remained, as before (Rs. 8 to Rs. 12 per month). The recorders continued to be rewarded for extension survey and for other good work. The annual grant is Rs. 8,000 apart from special payments in connection with "vital statistics." At my suggestion the system of rewards has been decentralized. By Government order No. 5612-F., dated the 20th September 1910, each Deputy Commissioner will now distribute all rewards in his own district up to an individual limit of Rs. 25. For larger rewards the sanction of the Commissioner will be required. In the matter of rewards the Deputy Commissioner in Assam has therefore been placed in the same position towards his recorders as that occupied by a District Magistrate in Eastern Bengal towards his chowkidars.

I also obtained an order from Government (No. 4648-F., dated the 6th August 1910) to the effect that the Travelling Allowance bills of kanungos and recorders in Assam will be passed by the Deputy Commissioner. The Accountant-General has further ruled that while the Travelling Allowance of kanungos is restricted by Article 1039 of the Civil Service Regulations, there is no corresponding restriction in the case of recorders (No. T. M.—1445, dated the 1st October 1910). In other words, the recorders are now subject to the ordinary rules of Travelling Allowance, whether the journey be performed by railway, by steamer or by road. This removes an admitted hardship, particularly in the case of journeys to and from circle headquarters.

Another concession which has been obtained by the Land Records staff in Assam relates to Article 147(*i*) of the Civil Service Regulations. By a strict interpretation of that article a first-grade recorder, who officiates as a kanungo is only entitled to Rs. 19 per month. During the year under report I brought this matter to the notice of the Local Government. Since the close of the year the Government of India have ruled (No. 1305-448-2, dated the 7th December 1910) that in such cases the recorder may draw the full pay of a second-grade kanungo, namely, Rs. 30.

Lastly, I would mention Government order No. 2314-R., dated the 1st October 1910. By this order the appointment, promotion and punishment of kanungos and recorders have, at my suggestion, been vested in the Deputy Commissioners and the Commissioners. In the same order the functions of the Director of Land Records in regard to inspection and in regard to the grant of survey certificates have been defined, and the Director has also been required to insert a paragraph in his annual report dealing with the punishments imposed on the Land Records staff. I submit below the figures which have been supplied to me :—

District.	No. of recorders.	Fines imposed on recorders for				Fines subsequently remitted.	Nett amount of Fines imposed.
		Absence without leave.	Delay in submitting papers.	Other causes.	Total.		
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Cachar ...	99	10 10 5	11 0 0	11 0 0	32 10 5	...	32 10 5
Sylhet ...	66	...	...	...	15 4 0	8 0 0	7 4 0
Goalpara ...	35	...	...	...	...	...	...
Kamrup ...	299	30 10 8	162 8 0	244 5 2	437 7 10	...	437 7 10
Darrang ...	146	87 8 0	25 8 0	46 4 0	159 4 0	33 0 0	126 4 0
Nowgong ...	172	116 13 7	41 8 0	80 0 0	238 5 7	2 0 0	236 5 7
Sibsagar ...	206	...	...	...	379 4 0	...	379 4 0
Garo Hills ...	12	...	...	3 0 0	3 0 0	...	3 0 0
Total ...	1,035	...	...	...	1,265 3 10	43 0 0	1,222 3 10

The district of Lakhimpur, which is under resettlement, has been excluded from this statement. It will be seen that the average of the fines works out to a little over one rupee per recorder. It will also be seen that the average in the Assam Valley is much higher than in the Surma Valley. This is not I think due to higher efficiency in the latter area.

In only one case is it reported that a kanungo has been fined. The case was in Nowgong. It is better that kanungos should seldom be fined. These officers are eligible for "field allowances" which are granted or withheld according to the merit of their work. (Chief Commissioner's order No. 91-Budget—585-F., dated 8th April 1903.)

25. The question of authorising the Settlement Officers of Eastern Bengal to carry out a cess revaluation was raised by me when I was Settlement Officer of Bakarganj. It was again raised by Mr. Jack in the case of the operation in Faridpur. It also attracted the attention of the Bengal Government and special legislation has been passed in that province (Bengal Act IV of 1910). It is probable that special legislation will sooner or later be passed in this province, but meanwhile it has been decided to make an experiment on the basis of the existing law (Government order No. 5464-M., dated the 21st July 1910). Where cess revision is ripe, the Settlement Officer will carry out revaluations on the basis of the draft record as modified by objections under Section 103-A. He will then insert the new cess in the draft record and will in due course embody it in the final record. In order to legalise this procedure several steps have been necessary. *First*, the notifications under Section 101 of the Bengal Tenancy Act have been amended and re-issued. One of the "particulars" which will now be recorded is "the cess lawfully payable by each tenant to his landlord at the time the record-of-rights is being prepared." *Secondly*, under sections 4 and 100 of the Cess Act the settlement officers concerned have been vested with the powers of a Collector, for the purpose of making revaluations. *Thirdly*, the Government rules under the Bengal Tenancy Act are being recast so as to provide a simple procedure by which the Settlement Officer, on receiving from the District Collector a formal objection under Section 103-A., will embody the revised cess in the record-of-rights. As mentioned in earlier paragraphs this experiment is being carried out in Faridpur and Jalpaiguri.

26. The question of carrying out partitions by the settlement staff is also one which has been much discussed and which arose in a concrete form in Faridpur. The system has been experimentally sanctioned by Government order No. 1934-R., dated the 19th August 1910. In this case also the work will be done upon the draft record, as modified by objections under Section 103-A. These papers will be formally adopted under Section 50 of the Partition Act and the procedure laid down in that Act will be fully complied with. The District Collector will retain his authority and responsibility, but the functions of the "Partition Deputy Collector" will be exercised by selected members of the settlement staff. The record-of-rights as finally published will be based upon the papers of the partition case. The extent to which this new procedure will be adopted of course depends on the number of applications which will be filed. There are indications that the procedure will be popular.

There was a discussion during the year on the question of so arranging the termination of the settlements of land revenue in Eastern Bengal that all the settlements in one district will expire in one year. The question has an important aspect in Noakhali and a still more important aspect in Bakarganj. I prepared a note which was considered by the last Commissioners' Conference. It was decided that the matter should be referred back for further opinions and reports.

28. Mr. Sachse again conducted a very successful training-camp in the District of Mymensingh. A thorough training in Survey and Settlement work was given to seven Civilians, six Deputy Collectors and four Sub-Deputy Collectors. The training lasted from the beginning of December to the beginning of March.

The three Survey Schools in Assam continued to work as heretofore. During the year, one man obtained a first class certificate and 116 men obtained second class certificates. As usual, very few of the successful candidates were either recorders, relations of recorders, or prospective recorders in backward areas. In other words very few of the successful candidates can hope for employment in this department. Although these schools have been placed under the supervision of the Director of Land Records they are financed by the Education Department. In addition to the grant of certificates from the Survey Schools, the Director of Land Records is authorised by Rule 13-B. and 13-C. of the Assam Land Records Manual to grant survey certificates on the basis of practical field work. During the year under report I granted one of these first class certificates and 38 of these second class certificates.

29. A matter of some importance to the officers of this department, both in Eastern Bengal and in Assam, was dealt with by Government order No. 1673-F., dated the 30th March 1910. The order has been issued with reference to Article 1056 of the Civil Service Regulations. Subject to certain restrictions, it extends the period during which halting allowance can be drawn by officers of this department from 10 days to 30 days.

30. Among general questions which were dealt with during the year I should mention the Secretary of State's Despatch, dated the 28th January 1910 and the corollary orders of the Governmentof India, No. 879, dated the 20th July 1910. By those orders settlement kanungos who are promoted first to the officiating or substantive protempore rank of Sub-Deputy Collector, and afterwards to the permanent rank, are now entitled to count towards pension the entire period of their service from the date on which they became kanungos. I should also refer to the Secretary of State's Despatch No. 149, dated the 12th November 1909 by which the provincial cadre of Deputy Collectors and Sub-Deputy Collectors was increased. The increase was made with special reference to the requirements of settlement work. In partial pursuance of these orders twelve settlement Kanungos have been promoted to the grade of Sub-Deputy Collector, and eight Sub-Deputy Collectors with settlement experience have been promoted to the grade of Deputy Collector. On behalf of the department I desire to express our thanks to Government.

The case of officers in the general line who do settlement work under district officers was also considered during the year. Certain general rules were laid down in Government order No. 2301-R., dated 30th September 1910. Each case will be dealt with on its merits, but officers who carry out 25 square miles of settlement work may in future be recommended for a settlement allowance. These rules apply to both portions of the province.

31. As regards the use which is made of the record-of-rights I am glad to report that there is growing appreciation of its value both among judicial and executive officers and among members of the general public. This tendency is particularly noticeable in the district of Bakarganj. Some further reports were received from District Judges regarding the working of the new Sections 147-B. and 148 (*b*)(1). The reports all indicate that the sections are working well, the only difficulty being that of knowing whether a record has or has not been prepared. As advised by the Board of Revenue I have taken steps to ensure that District Judges are kept informed of the progress of final publication. I may add that the District Judge of Rangpur has sent me a copy of a circular which he has issued to all his subordinate courts calling their attention to Section 148(*b*)(1) and requesting them to issue instructions for a careful examination of all plaints.

32. I have left to the last what is perhaps the most important general question which was dealt with during the year, namely, the efforts which have been made to curtail the cost of settlement operations in Eastern Bengal. After much discussion the following table of standard rates,

amounting to one rupee per acre, was approved in Government letter No. 1194-R., dated the 19th May 1910 :—

Branch of work.	Expenditure per square mile on					Total expenditure per square mile.
	Salaries.	Establishments.			Travelling allowance.	
		Kanungos	Surveyors, Recorders Clerks, &c.	Menials.		
1	2	3	4	5	6	7
	Rs	Rs	Rs	Rs	Rs	Rs
Traverse Survey	...	...	...	...	...	50
Cadastral „	10	23	66	5	5	109
Khanapuri	8	16	26	2	2	54
Preliminary office work ...	2	4	15	1	...	22
Bujharat	12	35	13	6	4	70
Attestation and objections ...	30	...	9	5	10	54
Final office work	6	20	35	4	...	65
Case work and revision of revenue...	20	...	8	5	7	40
Computation and recovery of costs...	6	7	7	4	2	26
Supervision	39	...	10	3	8	60
Supplies, services and contingencies.	..	...	...	...	...	60
Control by Director of Land Records	...	...	...	...	...	30
Total ...	133	105	189	35	38	640

This table includes all expenditure both direct and indirect. It also includes expenditure incurred by the Director of Surveys. I have calculated that the direct settlement expenditure, that is to say the expenditure which is debited to the settlement budgets, should not exceed Rs. 521 per square mile and that it should be spread over the financial years in the following proportion :—

	Rs
First year	220
Second year	123
Third year	101
Fourth year	77
Total ...	521

If therefore a district consists of four "blocks," A., B., C. and D., the standard budgets will be framed as follows :—

	Square miles in A.	Square miles in B.	Square miles in C.	Square miles in D.
	Multiplied by			
First Budget	220	...	...	...
Second „	123	220	...	...
Third „	101	123	220	...
Fourth „	77	101	123	220
Fifth „	...	77	101	123
Sixth „	...	...	77	101
Seventh „	...	...	...	77

It is obvious that the best practical means of curtailing settlement expenditure is to keep this formula constantly in mind at the time of framing the annual budgets. The budgets for the financial year 1911-12 were framed at a conference of Settlement Officers which met in Shillong in September 1910. Each budget in turn was tested by this formula. In some of the settlements which are already far advanced it was found difficult to apply the formula, but in all the settlements which are still in the earlier stages the formula was strictly applied. In this way considerable reductions were effected. In order to keep the actual expenditure within the estimates framed the most rigid economy will be exercised.

As regards the expenditure during the settlement year I annex a new appendix to this report (Appendix J.). It shows the expenditure in each of the large settlements divided according to the heads of work which are embodied in the Government order of 19th May 1910. In all cases "Contribution for Leave and Pension" has been included in a lump sum against "Supervision," so also has expenditure incurred in training the staff. On the other hand, the cost of forms and stationery supplied from Government depots has still to be added to the figures shown against "Supplies, Services and Contingencies."

As far as possible, I have combined the figures for work done during the year (Appendices B., C. and D.), with the figures for cost incurred during the year (Appendix J.) and I have compared the results with the standards laid down by Government. In doing this it was necessary to exclude those branches of work which in any given area are spread over several settlement years. In such cases the comparison must be deferred until the close of the operations. On the other hand a fair comparison can be made at the end of each year in the case of Cadastral Survey, Khanapuri, Preliminary Office Work, and Bujharat. An approximate comparison can also be made in the case of Attestation and Objections, but in this case the objections which are disposed of during a given settlement year do not necessarily coincide with the objections which are instituted in the area which was attested in that year. The operations in Bakarganj have advanced beyond the stage for annual comparison. In the case of Faridpur, Mymensingh and Jalpaiguri, I note the following figures for the year under report :—

District.	Cadastral Survey.		Khanapuri.		Preliminary office work.		Bujharat.		Attestation and Objections.	
	Work done (square miles.)	Cost per square mile.	Work done (square miles.)	Cost per square mile.	Work done (square miles.)	Cost per square mile.	Work done (square miles.)	Cost per square mile.	Work done (square miles.)	Cost per square mile.
		Rs		Rs		Rs		Rs		Rs
Faridpur ...	146	148	153	86	153	19	317	179	981	87
Mymensingh ...	867	91	867	39	867	14	905	81	800	72
Jalpaiguri ...	880	66	430	41	430	35	430	78	405	83
Standard rate of Government ...	...	109	...	54	...	22	...	70	...	54

An analysis of this table shows that in six cases the actual rates were below the standard rates, while in nine cases they were above the standard rates. The apparently high rates in Faridpur are due in some measure to

the fact that much of the work shown against this district was done in the outlying zones of Dacca, Pabna and Tippera, but still more to the fact that the main operations in Dacca were postponed, for immediate financial considerations, by an order of the Imperial Government. The inevitable result of this postponement was that a number of trained Kanungos who would otherwise have gone to Dacca were retained on the staff of Mr. Jack and were employed on work which would naturally have been done by a less expensive agency. The object of the Government of India was however attained, namely, that there was a curtailment of the total settlement expenditure in the financial year 1909-10. Apart from Faridpur the rates were below the standard in five cases out of ten. It is hoped that in the current settlement year the rates throughout the province will more often be below than above the standard.

33. I have not been able to refer in this report to all the important questions, whether of local or of general interest, which have been dealt with during the year. I have not even referred to the proposals for a further amendment of Tenancy Act, a question to which much time and attention was devoted. I have however written enough to show that the year was a busy and important year and that good progress was made all along the line. As regards the merits of officers, I have already alluded to the loss occasioned by the illness and departure of Mr. Milne. The other Settlement Officers continued to work with zeal and ability. As regards the Assistant Settlement Officers it would be unfair, where so much good work has been done, to mention individual names. I must however allude to the bestowal upon Moulvie Mohammad Abdul Momin of the well-earned title of Khan Bahadur and to the retirement on pension of the *doyen* of the department, Rai Pyari Mohan Basu Bahadur. The Rai Bahadur and I were directly associated in settlement work for a period of fourteen years. I cannot speak too highly of his industry, his ripe wisdom and his unswerving loyalty. He has left a permanent mark upon the administration of the province. I desire to acknowledge the cordial co-operation of Captain Hirst and Captain Cotter, and of all the District Officers. Lastly, I would again express my warm thanks to many friends, official and non-official, for help and hospitality during my tours.

I have the honour to be,

SIR,

Your most obedient Servant,

N. D. BEATSON BELL,

Director of Land Records,

Eastern Bengal and Assam.

APPENDIX A.

"Permanently-settled" in this table includes "Revenue-free."

DISTRICTS.	CLASSIFICATION OF DISTRICT AREA. (SQUARE MILES.)			AREA FOR WHICH A CADASTRAL SURVEY AND RECORD-OF-RIGHTS ARE COMPLETE. (SQUARE MILES.)			AREA FOR WHICH A CADASTRAL SURVEY AND RECORD-OF-RIGHTS WERE BEING PREPARED IN 1909-10. (SQUARE MILES.)			AREA OUTSTANDING. (SQUARE MILES.)			REMARKS.
	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dacca ..	2,656	126	2,782	80	9	89	..	..	..	2,576	117	2,693	
Mymensingh ..	6,107	225	6,332	95	36	131	1,654	80	1,734	4,358	109	4,467	
Faridpur ..	2,390	195	2,585	99	11	110	2,291	184	2,475	..	..	..	
Bakarganj ..	2,272	1,478	3,750	2,272	1,284	3,556	..	194	194	..	..	..	
Chittagong ..	713	1,364	2,077	713	1,137	1,850	..	..	..	..	227	227	
Tippera ..	2,363	136	2,499	744	80	829	81	40	121	1,533	15	1,548	
Noakhali ..	1,460	184	1,644	349	123	472	..	35	35	1,111	26	1,137	
Rajshahi ..	2,564	29	2,593	62	9	71	..	11	11	2,502	9	2,511	
Dinajpur ..	3,946	..	3,946	497	..	497	20	..	20	3,429	..	3,429	
Jalpaiguri ..	1,062	1,980	3,042	..	..		512	1,980	2,492	550	..	550	
Rangpur ..	3,486	6	3,492	106	..	106	..	..	..	3,380	6	3,386	
Bogra ..	1,319	40	1,359	8	40	48	5	..	5	1,306	..	1,306	
Pabna ..	1,497	342	1,839	26	9	35	117	8	125	1,354	325	1,697	
Malda ..	1,860	39	1,899	86	2	88	..	3	3	1,774	34	1,808	
Total Eastern Bengal Districts ..	33,695	6,144	39,839	5,142	2,783	7,925	4,680	2,535	7,215	23,873	826	24,699	
Cachar ..	2	3,767	3,769	2	1,054	1,056	..	..	..	..	2,713	2,721	In the case of the Assam Districts, areas surveyed in extension have been included in columns 5-7. Areas under re-settlement have not been specially entered: Such areas also appear in columns 5-7. Columns 8-10 are therefore blank.
Sylhet ..	3,825	1,555	5,380	..	814	814	..	..	..	3,825	741	4,566	
Goalpara ..	2,528	1,433	3,961	..	308	308	..	..	..	2,528	1,125	3,653	
Kamrup ..	53	3,805	3,858	53	2,173	2,226	..	..	..	..	1,632	1,632	
Darrang ..	8	3,398	3,406	8	1,197	1,205	..	..	..	..	2,201	2,201	
Nowgong ..	4	3,800	3,804	4	1,124	1,128	..	..	..	..	2,676	2,676	
Sibsagar ..	62	4,934	4,996	62	1,790	1,852	..	..	..	..	3,144	3,144	
Lakhimpur ..	3	4,204	4,207	3	702	705	..	..	..	..	3,502	3,502	
Garo Hills ..	..	3,140	3,140	..	41	41	..	..	..	..	3,099	3,099	
Total Assam Districts ..	6,486	30,036	36,503	132	9,203	9,335	..	..	..	6,353	20,833	27,186	

APPENDIX B.

General Progress of Survey and Settlement in Eastern Bengal for the year ending 30th September 1910.

Name of District.	Traverse Survey by Settlement parties. (Square miles.)		Cadastral Survey by Settlement parties. (Square miles.)		Khanapuri. (Square miles.)		Bujharat. (Square miles.)		Attestation. (Interests.)		Draft Publication. (Interests.)		Objection under Section 103-A.		Final Publication. (Interests.)		Recovery of Costs.		Expenditure during the year.
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Cases for disposal.	Cases disposed of.	Programme.	Work done.	Amount for realisation.	Amount realised.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
																	Rs.	Rs.	Rs.
Dacca ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	10,788
Mymensingh ...	...	...	867	867	867	867	908	906	199,653	182,726	182,726	165,799	6,823	5,615	...	...	...	...	3,79,290
Faridpur ...	...	...	146	146	153	153	317	317	407,000	407,000	407,000	407,000	30,857	14,739	...	...	...	...	4,01,638
Bakarganj ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	58,632	23,290	1,13,951	85,975	1,01,115
Tippera ...	3	3	8	8	8	8	8	7	4,000	462	4,000	462	12	...	...	...	...	...	5,854
Noakhali ...	11	11	11	11	11	11	31	24	2,444	1,822	2,444	1,822	175	175	3,912	1,260	...	300	15,231
Rajshahi ...	...	...	11	11	11	11	14	14	630	630	630	630	162	162	630	251	...	...	1,442
Dinajpur ...	...	...	...	...	...	...	20	20	7,580	7,580	7,580	7,580	679	679	632	632	...	...	5,176
Jalpaiguri ...	...	...	880	880	430	430	473	473	19,856	19,856	19,856	19,856	6,245	6,237	...	...	...	...	2,96,147
Bogra ...	...	...	...	...	...	...	...	...	1,202	1,202	1,202	1,202	259	259	...	...	...	...	740
Pabna ...	...	...	...	...	...	...	1	1	1,722	1,722	1,722	1,722	307	135	2,632	910	...	...	1,261
Malda ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	255	255	...	...	362

APPENDIX C.

Judicial Work of Revenue Officers in Eastern Bengal for the year ending the 30th September 1910.

Name of District.	Suits under Section 105.								Suits under Section 106.							
	Cases for disposal.	Cases disposed of.	Appeals to Special Judge.						Cases for disposal.	Cases disposed of.	Appeals to Special Judge.					
			Appeals for disposal.	Appeals disposed of.	Results of appeals.						Appeals for disposal.	Appeals disposed of.	Results of appeals.			
					Decision upheld.	Decision modified.	Decision reversed.	Retrial ordered.					Decision upheld.	Decision modified.	Decision reversed.	Retrial ordered.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Bakarganj ...	...	...	1,373	1,367	379	642	61	285	...	...	370	369	169	96	30	74
Noakhali ...	1,585	794	844	621	43	475	102	1	219	205	41	23	15	3	5	...
Dinajpur ...	351	63	1	1	...	...	...	...	4	...	...	...	...	...	...	...
Pabna ...	325	208	464	259	145	114	...	...	49	37	20	19	16	...	3	...

APPENDIX D.

Progress in the Settlement of Land Revenue in Eastern Bengal during the year ending on 30th September 1910.

Name of District.	Determination of tenants' rents.					Determination of revenue payable by proprietors in temporarily-settled estates.				
	Number of rents for determination.	Number of rents determined.	Percentage of increase or decrease of rent determined in the case of			Number of estates for determination.	Number of estates determined.	Old Jama payable to Government.	New Jama.	
			Tenure-holders.	Raiyats.	Under-raiyats.				Raiyatwari assets.	Payable to Government.
1	2	3	4	5	6	7	8	9	10	11
								Rs.	Rs.	Rs.
Bakarganj	19,294	15,063	+50	+39	...	58	36	19,318	37,961	26,111
Noakhali	2,623	233	+23	+76	+54	1	...	...	...	...
Rajshahi	376	...	...	...	...	3	...	...	...	...
Pabna	334	334	...	+4	...	2	1	167	611	427
Malda	2,421	2,421	...	+10	...	4	3	163	345	245

APPENDIX E.

Progress of Resettlement work in Assam during the year ending on 30th September 1910.

Name of District.	Number of villages in which										Expenditure during the year.
	Correction of map and records.		Soil Classification.		Record Attestation.		Revenue Attestation.		Submission of rate reports.		
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	
1	2	3	4	5	6	7	8	9	10	11	12
											Rs.
Lakhimpur ...	663	614	663	614	471	471	...	...	...	...	48,812

APPENDIX F.

Progress of "Extension" Surveys in Assam for the year ending 30th September 1910.

Name of District.	Total area of District. (Square miles.)	Area surveyed cadastrally by professional party. (Square miles.)	Area surveyed in extension by village recorders.			Total area cadastrally surveyed. (Square miles.)	Remarks.
			Previously. (Square miles.)	During the year under report. (Square miles.)	Total. (Square miles.)		
1	2	3	4	5	6	7	8
Cachar	1,649	1,034	22	...	22	1,056	
Sylhet	5,380	545	260	9	269	814	
Goalpara	3,961	...	306	2	308	308	
Kamrup	3,858	1,966	260	...	260	2,226	
Darrang	3,406	857	348	...	348	1,205	
Nowgong	3,804	1,012	116	...	116	1,128	
Sibsagar	4,996	1,521	327	4	331	1,852	
Lakhimpur	4,207	269	325	111	436	705	
Garo Hills	3,140	...	33	8	41	41	

APPENDIX G.

Maintenance of the Records during the year ending the 30th September 1910.

(WHOLE PROVINCE.)

Name of District.	Number of tenancies or periodic pattas on area dealt with.	Number of mutations recorded.			Percentage of column 5 on column 2.	REMARKS.
		By formal procedure. (Assam.)	By summary procedure. (Assam.)	Total.		
1	2	3	4	5	6	7
		EASTERN BENGAL.				
Mymensing h... Government Estates ...	7,020	...	...	116	1·65	
Bakarganj ... Government Estates ...	13,194	...	...	1,036	7·85	
Bakarganj ... Court of Wards ...	12,708	...	...	2,753	21·66	
Chittagong ... Government Estates ...	94,827	...	...	3,176	3·34	
Chittagong ... Court of Wards ...	12,038	...	...	170	1·41	
Tippera ... Government Estates ...	11,658	...	...	259	2·22	
Tippera ... Court of Wards ...	75,040	...	...	8,611	11·44	
Noakhali ... Government Estates ...	13,151	...	...	693	5·2	
Rajshahi ... Government Estates ...	125	...	...	5	4·0	
Rangpur ... Government Estates ...	49	...	...	5	10	
Dinajpur ... Court of Wards ...	30,951	...	...	670	2·16	
Jalpaiguri ... Government Estates ...	34,973	...	...	2,052	5·86	
Bogra ... Government Estates ...	7,630	...	...	544	7·1	
Malda ... Government Estates ...	4,479	...	...	15	0·3	
		ASSAM.				
Cachar	52,310	1,615	11,504	13,119	20·50	
Sylhet	37,932	861	7,760	8,621	22·72	
Goalpara	1,634	33	61	94	5·75	
Kamrup	134,882	1,302	5,950	7,252	5·37	
Darrang	87,878	365	5,555	5,920	6·73	
Nowgong	62,004	361	1,655	2,016	3·25	
Sibsagar	145,087	1,880	6,767	8,647	5	
Lakhimpur	...	...	...	...	...	District under resettlement.

APPENDIX H.

Condition of Survey marks in Assam during the year ending the 30th September 1910.

No.	Classification.	Total number of marks.	Total number found in good order.	Number found not in good order.		Total of column 4 and 5 in good order on 1st October 1910.	Number lost or left unvisited.
				Repaired.	Not repaired.		
1	2	3	4	5	6	7	8
1	THEODOLITE STATIONS—						
	(*i*) Stone Prisms	14,543	13,220	431	306	13,651	586
	(*ii*) Square stones or blocks ...	37,784	28,445	1,841	1,775	30,286	5,723
	(*iii*) Other marks	72,129	38,740	16,315	9,457	55,055	7,617
2	BOUNDARY MARKS OF DISTRICTS, &c.—						
	(Other than theodolite stations)—						
	(*i*) Stone prisms	1,859	1,793	1	2	1,794	63
	(*ii*) Square stones or blocks ...	7,272	6,012	...	27	6,012	1,233
	(*iii*) Other marks	1,831	1,446	135	30	1,581	220
3	BOUNDARY MARKS OF PRIVATE PROPERTY—						
	(Other than theodolite stations)—						
	(*i*) Stone prisms	4,765	4,544	76	112	4,620	33
	(*ii*) Square stones or blocks ...	15,153	13,734	254	497	13,988	668
	(*iii*) Other marks	6,070	5,493	178	360	5,671	39
4	KANUNGOS' MOUNDS	9,827	4,369	2,591	1,737	6,960	1,130

APPENDIX I.

Result of Inspection of Survey Marks in Eastern Bengal during the year ending the 30th September 1910.

Division and District.	Total number of Estates surveyed under the Survey Act or Bengal Tenancy Act.	Total number of Estates in which permanent boundary marks are erected.	Number of marks erected in the Estates mentioned in column 3.	Number of marks inspected during the year under report.	Result of inspection of the marks shown in column 5.			Number of damaged or missing marks restored.	Cost of restoration and how met.	Result of prosecution, if any.
					Number in fair order.	Number damaged.	Number missing.			
1	2	3	4	5	6	7	8	9	10	11
CHITTAGONG DIVISION—				GOVERNMENT ESTATES.						
Chittagong	80,559	Not reported.	Not reported.	365	353	....	12	...	...	
Tippera	142	Not reported.	301	54	53	...	1	...	...	
Noakhali	9	1	3	117	115	...	...	...	...	
RAJSHAHI DIVISION—										
Jalpaiguri	5	5	2,541	41	34	...	7	...	...	
Malda	6	24	251	82	73	...	9	...	...	
Bogra	2	2	478	425	425	...	...	...	...	
DACCA DIVISION—				WARDS ESTATES.						
Bakarganj	3	3	1,096	1,096	1,067	23	6	...	...	
RAJSHAHI DIVISION—										
Dinajpur	1	1	659	333	333	...	...	...	...	
CHITTAGONG DIVISION—										
Tippera	2	2	3,003	208	182	3	23	...	...	

APPENDIX J.

Details of Expenditure incurred in the larger settlement operations in Eastern Bengal during the year ending 30th September 1910.

Branch of work.	Bakarganj.	Faridpur.	Mymensingh.	Jalpaiguri.	REMARKS.
1	2	3	4	5	6
	Rs	Rs	Rs	Rs	
Cadastral Survey	187	21,857	78,584	58,052	
Khanapuri	...	13,151	33,842	17,788	
Preliminary office work ...	...	2,850	11,917	15,033	
Bujharat	...	56,736	73,375	33,536	
Attestation and objections ...	...	84,920	57,815	33,691	
Final office work	23,199	59,217	5,201	37,844	
Case work and revision of revenue	32,475	11,004	...	19,267	
Computation and recovery of costs	14,171	...	...	...	
Supervision	18,674	85,956	89,471	67,808	
Supplies, Services and Contingencies	12,409	66,047	29,085	13,128	
Total ...	1,01,115	4,01,638	3,79,290	2,96,147	

BOARD OF REVENUE, EASTERN BENGAL AND ASSAM.

GROUP I.

SURVEY AND SETTLEMENT BRANCH.

No. 681-S. & S.

FROM

J. F. GRUNING, ESQ., I.C.S.,
OFFG. SECRETARY TO THE BOARD OF REVENUE,
EASTERN BENGAL AND ASSAM,

To

THE SECRETARY TO THE GOVERNMENT OF
EASTERN BENGAL AND ASSAM,
REVENUE DEPARTMENT.

Dated, Daeca, the 17th February 1911.

SIR,

I am directed to forward the Survey and Settlement Reports for the year ending the 30th September 1910 with the Board's remarks thereon.

The Hon'ble MR. H. LEMESURIER, C.S.I., C.I.E.,
Member-in-charge.

2. The Survey Report was again received punctually but the Settlement Report did not reach the Board until the 10th January 1911. The delay was due to the fact that the Director of Land Records had to make a hurried journey to Lakhimpur and to remain there superintending the settlement work in that district in consequence of the sudden illness of the Settlement Officer, Mr. Milne and his departure on leave.

3. I am to note that during the year the title of the Head of the Survey Department has been changed to Director of Surveys. New Accounts Rules. Rules for the grant of leave to Survey Officers, Rules for the Map Issue Office and Rules for the preparation of thana maps have been framed since the last Report was submitted.

I have the honour to be,

SIR,

Your most obedient Servant,

F. P. DIXON,

Offg. Secretary.

BOARD'S REMARKS ON THE SURVEY AND SETTLEMENT REPORTS FOR THE YEAR ENDING THE 30TH SEPTEMBER 1910.

I.—SURVEY REPORT.

Paragraph 5.—The Director of Surveys has been declared to be the Head of a Department with reference to the provisions of the Civil Account Code and the Civil Service Regulations. He has also been vested with the financial powers of a Head of a Department.

Paragraph 8.—The Board noted last year that the question of the selection and the preparation of the paper to be used in this Department is one of great importance. They desire to thank Captain Hirst for his enquiries and accept his conclusions.

Paragraph 12(*b*).—The provisional rules regarding the grant of leave to Survey Officers, sanctioned in Government Order No. 981-R., dated the 25th April 1910, appear to be working well. They will come up for confirmation in April next.

Paragraph 14.—The advisability of a traverse basis for extension surveys in Assam is receiving the attention of the Board.

Paragraph 19.—The increase in the programme was unavoidable. Villages have to be dealt with as they are found and the extent of cultivation and its scattered nature was not previously appreciated.

Paragraph 42.—The system of demarcating survey marks by growing trees was considered during the year and a circular was issued by the Director of Surveys with the approval of the Board.

Paragraph 101.—In the opinion of the Board, the result is excellent.

Paragraph 118.—This is a very interesting and difficult subject and the Board accept Captain Hirst's careful analysis of it.

Paragraph 129.—Settlement Officers have found great difficulty in arranging for the regular supply of sheets and the delay has clearly caused trouble in the Drawing Office. The matter is receiving the full consideration of the Board.

General Remarks.—The Board desire to bring to the notice of Government the untiring energy and ability with which Captain Hirst has managed the Department.

II.—THE SETTLEMENT REPORT.

Paragraph 4.—The Bakarganj Settlement will be completed by the 31st March 1911. More than 98 per cent. of the demand of Rs. 16,46,000 has been realised on account of costs with very little difficulty. The Board consider that this is extremely satisfactory and shows that the people appreciate the value of the record. They have approved of the arrangements made for closing up these Settlement operations.

Paragraphs 5 *and* 6.—Work in Faridpur is proceeding satisfactorily and a survey and the preparation of a record-of-rights has been begun in Dacca.

Paragraph 7.—The progress of work in Mymensingh is interesting and the report shows how many important questions have arisen in this district and how necessary was the decision to undertake the survey and record-of-rights therein.

Paragraph 8.—The Jalpaiguri Settlement will be ompleted by March 1914. During the year the Board issued orders on the subjects of the status of *adhiars* and the demarcation of jotes. Rates of rent have been settled for the more advanced parganas North Mainaguri, South Mainaguri and Chengmari which together form the Mainaguri tahsil in the Western Duars. Cess revision will be an easy matter in the Western Duars and there will be little, if any, partition work to be done in this district.

Paragraph 14.—The Board have requested that notifications may be issued by the Governments of this province and of Bengal appointing Babu Kali Mohan Sen to be Assistant Settlement Officer for the work to be done in the six villages belonging to Rai Bonamali Rai Bahadur.

Paragraph 18.—It has been decided that revenue attestation shall be carried out in the season following that in which record attestation is completed. This arrangement is the result of instructions issued by the Hon'ble Mr. Lyon after a visit to Lakhimpur.

Paragraph 23.—The Board note that the Director of Land Records has not submitted a report on the subject of the maintenance of records in Eastern Bengal.

Paragraph 31.—The Board desire to express their satisfaction that there is a growing appreciation of the value of the record-of-rights both among judicial and executive officers and among the general public. They notice with special satisfaction the circular issued by the District Judge of Rangpur.

Paragraph 32.—The Director of Surveys is prepared to accept an all round rate of Rs. 50 a square mile for traverse survey provided that map reproduction charges are not included and that cases in which the Survey has to be done twice over are specially treated. The Board appreciate the efforts which have been made to curtail the cost of settlement operations in Eastern Bengal.

General Remarks.—The Board invite the attention of Government to the comment s made by the Director of Land Records on the officers serving under him. Mr. Sachse was most successful in conducting the training camp in Mymensingh. Mr. Milne did excellent work in Lakhimpur and the Board recognise the loss which the Department has sustained owing to his illness and consequent departure on leave. Valuable enquiries were made by Mr. Sankey into the position of the *adhiars* in Jalpaiguri.

Mr. Beatson-Bell has conducted the work of his department with his usual zeal and ability and the Board again desire specially to bring his services to the notice of Government.

Resolution on the Survey and Settlement Reports, Eastern Bengal and Assam, for the year ending the 30th September 1910.

Extract from the Proceedings of the Lieutenant-Governor of Eastern Bengal and Assam in the Revenue Department, No. 863R., dated the 21st April 1911.

READ—

The Survey and Settlement Reports for the year ending the 30th September 1910, and the remarks recorded thereon by the Board of Revenue.

RESOLUTION.

THE Survey Report was again submitted with commendable punctuality, but the Settlement Report was not ready till the 9th January, owing to the regretted breakdown of the Settlement Officer of Lakhimpur early in the field season, which compelled the Director of Land Records to take personal charge of the operations in that district at a time when his Report was under preparation. There was further delay in the private press to which the work of printing was entrusted, with the result that the Board's covering letter did not leave the press till more than one month after the reports were due to the Government of India. The Lieutenant Governor recognises that the circumstances this year were exceptional, but he hopes that every endeavour will be made to secure greater punctuality in future. These reports are also required for the Annual General Administration Report of the Province, which has been seriously delayed this year in consequence of their late receipt. Arrangements have now been made for the submission of typed copies early in December each year, if there is any likelihood of the printed reports being delayed; and His Honour trusts that the Board will be able to make use of these copies for the preparation of their covering remarks, while the Secretariat Press will, it is hoped, be in a position to print the reports in future years.

2. Substantial progress has been made with the organisation and development of the Provincial Survey Department, and the system is now working smoothly Difficulties of accommodation have hitherto hampered the work at Shillong, but these should vanish when the move of other Government offices to Dacca is completed. The superior cadre of the Department is virtually settled, but the final adjustment of the field staff is still pending, and the views of the Government of Bengal are awaited as the common interests of the two Provinces require concerted action. Meanwhile a serious dearth of capable theodolite traversers has necessitated the institution of an experimental training class at Gauhati. The improvement of the Drawing Office is welcome reading, but the failure of the Settlement Department to supply sheets according to the programme is a matter which fully merits the special attention which it is receiving from the Director of Land Records and the Board.

3. The account of demarcation work in and round the district of Goalpara is full of interest and exemplifies the necessity for the employment of a trained professional agency to settle troublesome and longstanding contentions of this nature, a permanent and accurate solution of which was impossible under the old conditions. The Lieutenant-Governor has read with great interest Captain Hirst's account of the preparation of the comparative maps of the Faridpur and Dacca *diaras*, which constitute a great advance in *diara* work and should be of inestimable value to the Courts. The most important *diaras* of the Province have now been either taken up or notified, and the Lieutenant-Governor will be glad if the Board will consider what arrangements can be made for the maintenance of the records and comparative maps of these areas for revenue and judicial purposes. If they can be kept up to date without undue expense they should be invaluable to the Magistracy in dealing with cases under section 145 of the Code of Criminal Procedure, which have long been a source of difficulty to the Administration. In view of the great intricacy of the work and the grave fiduciary responsibility of Government for special maps of this nature, which do not admit of easy check by the public, the Director should exercise more than ordinary care in their preparation.

4. The advisability of a traverse basis for extension surveys in Assam is a question of prime importance both for the accuracy of the record and in the interests of economy in future operations ; the matter is already engaging the Board's attention, and the Lieutenant-Governor hopes it will be possible to evolve a satisfactory system at an early date. The Director's complaint of defective demarcation of village boundaries is another matter which deserves the Board's special attention.

5. The protracted operations in Bakarganj have at last reached a close, but work in Faridpur has been delayed by numerous objections under section 103A of the Tenancy Act and by non-receipt of printing presses from England. The proclamation to the Mymensingh peasantry explaining the operations and the requirements at each stage of the proceedings was very sound policy. The introduction of the system of record attestation on a personal basis in Lakhimpur was another decided step in advance, and His Honour can well understand how much the *raiyats* appreciate being taken into more full confidence.

6. Government awaits Mr. Beatson-Bell's report on his scheme for the maintenance of the records in Eastern Bengal and also his draft Settlement Manual. The latter is urgently needed to replace a Manual now out of date, and it is hoped that some scheme for the maintenance of the records will be evolved shortly.

7. The outcome of the important experiments introduced during the year of entrusting Settlement Officers with the duties of cess revaluation and with the preliminary work in partition cases under Act V (B.C.) of 1897 will be watched with interest, as the settlement staff should prove the most efficient and economical agency for both purposes.

8. Sir Lancelot Hare appreciates the endeavours of the Board and both Directors to promote increased economy. The prescription of standard rates on the basis of past experience will provide a very useful check on the annual budgets of the Departments, though the great variety of conditions in Eastern Bengal makes rigid adherence to any formula impossible. His Honour is satisfied that every endeavour is being made to curtail expenditure, and he trusts that there will be no relaxation of the present efforts not only to prevent actual waste but also to discover cheaper methods.

9. The thanks of Government are due to both Directors for their energetic and successful administration of their Departments and to their assistants for their loyal co-operation. The Appointment Department will be asked to note the names of the officers of the Settlement Department who have been commended by the Board and the Director of Land Records.

ORDER.—Ordered that this Resolution be published in the *Eastern Bengal and Assam Gazette*, and that a copy of it, with copy of each of the two Reports, be submitted to the Government of India.

By order of the Lieutenant-Governor,

J. F. GRUNING,

Secretary to the Government of Eastern Bengal and Assam.

E. B. & A. G. P. (R. & G.) No. 13—350—24-4-1911.—B. C. S.

REPORT

ON THE

SURVEY AND SETTLEMENT OPERATIONS

IN

EASTERN BENGAL AND ASSAM

FOR THE

Year ending the 30th September 1911.

DACCA:
PRINTED AT THE EASTERN BENGAL AND ASSAM GOVERNMENT
CENTRAL PRESS.

1912.

English Two shillings.] [*Price One rupee eight annas.*

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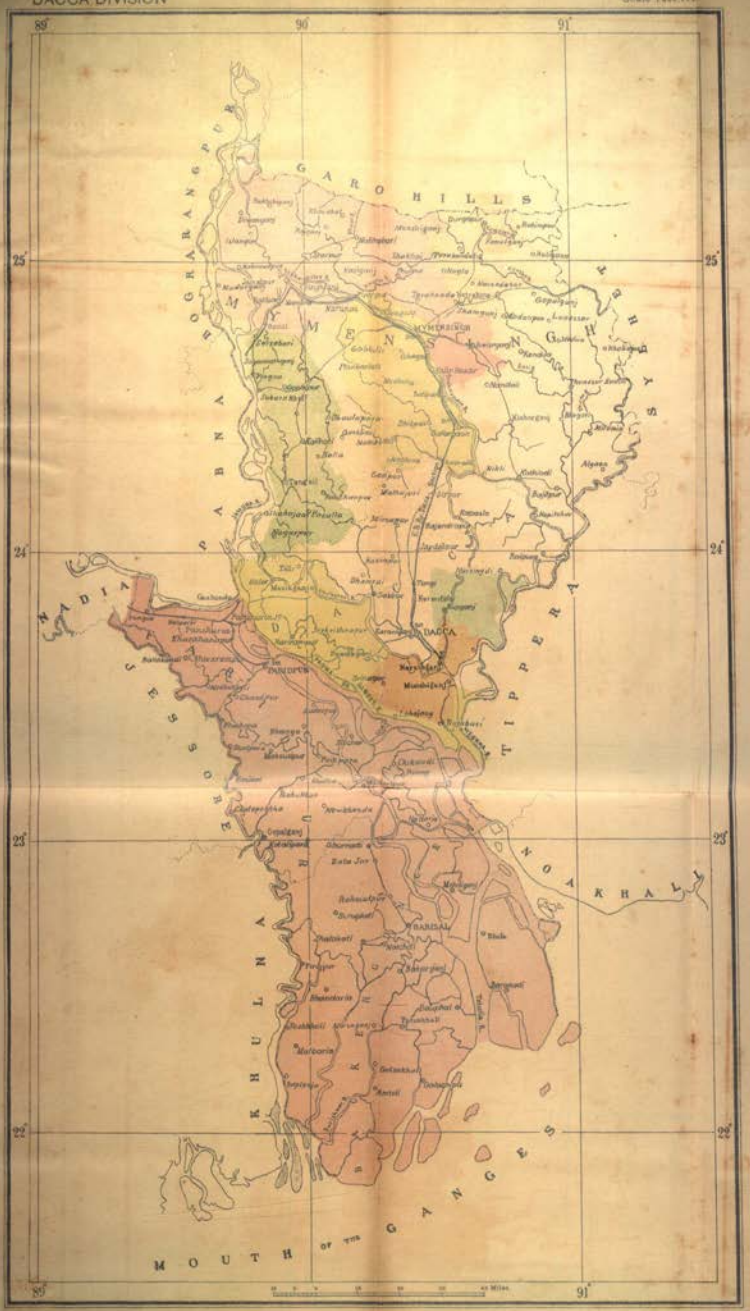
PROGRESS OF MAJOR SETTLEMENT WORK

TO 30TH SEPTEMBER 1911

DACCA DIVISION

Scale 1 inch = 8 miles.



REFERENCES

Cadastrally Surveyed previously.

Do do in 1910-11

Traversed in 1910-11.

Traverse remid in 1910-11.

CHITTAGONG DIVISION

PROGRESS OF MAJOR SETTLEMENT WORK
TO 30TH SEPTEMBER 1911

Scale 1 inch = 8 miles

REFERENCES

Cultivated and Forest Survey completed

LUSHAI HILLS

CHITTAGONG HILL TRACTS

NORTHERN ARAKAN

MYMENSINGH

FARIDPUR

BACKERGUNGE

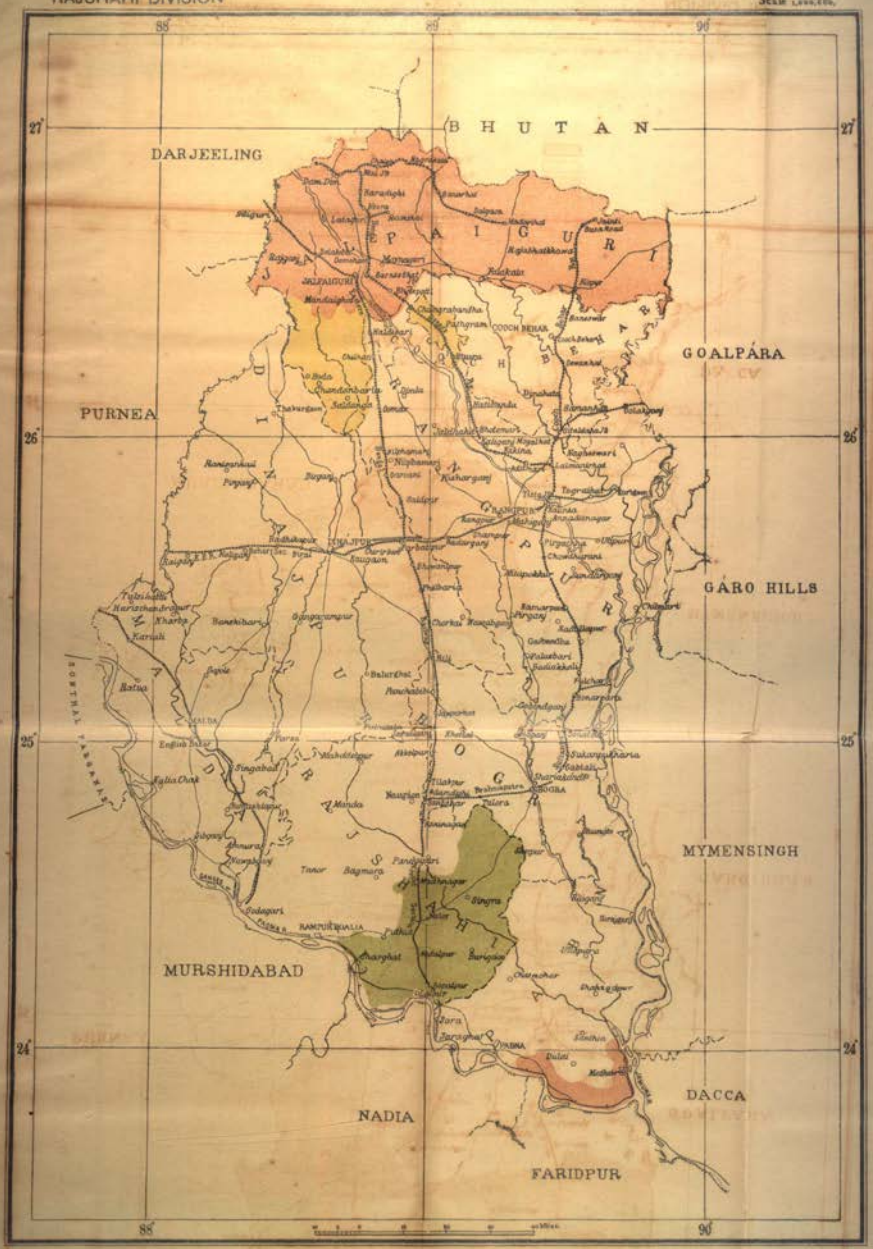
MOUTHS of the GANGES

PROGRESS OF MAJOR SETTLEMENT WORK

TO 30TH SEPTEMBER 1911

RAJSHAHI DIVISION

Scale



REFERENCES.

Cadastrally Surveyed previously.

Do do in 1910-11.

Traversed in 1910-11.

No. 4004—R.-7.

FROM

CAPTAIN F. C. HIRST, I.A.,

DIRECTOR OF SURVEYS,

EASTERN BENGAL AND ASSAM,

To

THE SECRETARY TO THE BOARD OF REVENUE,

EASTERN BENGAL AND ASSAM.

Dated Shillong, the 10*th November* 1911.

SIR,

I have the honour to submit my report on the Survey Operations, other than Cadastral Surveys, in Eastern Bengal and Assam, during the last survey year, *viz.*, 1st October 1910 to 30th September 1911.

2. I have been in charge of the Department for the whole of the year under report.

CHAPTER I.

GENERAL REMARKS.

3. The outturn for the year, excluding linear and petty surveys, such as relaying lost boundaries, and including relaying 351 square miles of old traverse in the Dacca district, was 2,321 square miles. The outturn in 1909-10 was 2,432 square miles; the slight difference is due to a short programme in the Dacca district, but it is amply made up for by an excess of miscellaneous work.

4. The magnetic declinations given in this report are to the nearest 15 minutes, and they apply to this year only; if more accurate values are required, they are obtainable from the Surveyor General.

I find that in many cases court *amins*, private surveyors, and the survey staffs of District Officers use declinations which are obtained from old, and sometimes very old, maps; as the declinations alter about three and a half minutes annually, some of the relaying results obtained by the agencies mentioned above, which agencies do not hesitate to relay boundaries from one known point and the magnetic declination, must give very inaccurate results. With the Board's permission, therefore, I have had the declinations for each district in the Province printed and circulated to all to whom I think they may be of use. It is proposed to issue a printed list annually, so that unnecessary errors in the future may, as far as is possible, be eliminated.

5. In paragraph 6 of my last report, I anticipated that final account figures could be given for this year in this report. There has been great delay in the new Accounts Manual going through the Press, and it was only received on the 2nd September 1911. For this year, therefore, figures that cannot be depended upon, except as a tolerably close index to cost rates, must be given again.

6. In paragraph 7 of my last report, I reviewed the position of the organization of the Department, but, as my work is extending in a good many

directions, it has been found necessary to make certain changes, some of which are of importance and deserve mention here; to these I have added notes upon the other items dealt with in paragraph 7 of my last report :—

(*a*) *Accounts.*—The Accounts Manual mentioned last year is now published. Since it was written a good many changes in my powers and other things have occurred, and I propose to start at once to recast the Manual, the present issue of which is "provisional." The recasting will be a simple matter.

(*b*) *Traverse Sections.*—The Department contained three Traverse Detachments in Eastern Bengal and one Traverse Section in Assam until 1st September 1911; it was customary, until that date, for the miscellaneous programme of the Department to be divided amongst these four executive charges, but, in the last three years. miscellanous work has increased enormously, and, in the field season 1910-11, I found that the increase was sufficieut to cause risk to the efficient carrying out of the Major Settlement Traverse programmes in Eastern Bengal. A case was, therefore, made out for the raising of the Assam Traverse Section to the status of a Detachment from 1st September 1911, so that it might take over the whole of the miscellaneous programme of the Province; the full details for this change in organization will be found in a note submitted by me to the Board of Revenue with my letter No. 1819S.-1, dated the 20th May 1911, and they need not be given here. The suggested changes were accepted by the Board and by Government in Resolution No. 21R.T., dated 20th November 1911. Incidentally it may be mentioned that, by that resolution, the nomenclature of the different field charges was altered as follows:—

Old name.	New name.
Traverse Detachment I (Eastern Bengal)	... No. 1 Party (Rajshahi).
Ditto II Ditto	... No. 2 Party (Mymensingh).
Ditto III Ditto	... No. 3 Party (Dacca).
Assam Traverse Section	... No. 4 Party (Miscellaneous).

The question of reduction of traverse rates, as stated in my last report, was under consideration during the year. It is now proposed that from the beginning of the next survey year, preliminary demarcation of village trijunctions and salient bends in village boundaries shall be carried out for us by the Settlement Department, helped by the District Staff concerned; when the traversers reach the ground, therefore, the main causes of delay in the past will be done away with, and a considerable drop in rates should take place. I am greatly indebted to the Director of Land Records and his Settlement Officers for the cordial way in which they have cheerfully accepted these proposals for economy; their help will be invaluable and, I hope, much to the financial interest of Government.

The change in organization of the Field Sections will also operate favourably in reducing cost rates.

Full details regarding every step taken by me to make an exhaustive enquiry into the best means of reducing cost rates will be found in the notes submitted to the Board of Revenue with my letter No. 1802—A.-2, dated the 18th May 1911.

(*c*) *Forms.*—The forms used throughout the Department have now been standardized and scheduled. It is found that some of the Professional forms which contain formulæ, cannot be printed suitably at the Government Press; for the present they are being printed privately, but next year I hope to be able to print them in the Shillong Drawing Office; this course will be more economical.

(*d*) *Adjustments of Establishments.*—Although last year I reported that the adjustment was more or less complete, owing to increases of work in nearly every directions, I have been forced to put forward revised proposals. These are under the consideration of the Board. I fear that, until we have several years' longer experience, no finality in the fixing of establishments throughout the Department will be attained; almost weekly I find extra work that is within the sphere of my Department and which will probably have to be taken up sooner or later; at present, therefore, it is not possible to foretell what the limits of use to the Local Government of a Local Survey Department are; consequently, we should be prepared to face extensions and readjustments of staff, from time to time, for some years to come.

(*e*) *Office Accommodation.*—Full arrangements have been made during the year for the housing of all my offices, in one central spot. During the year the offices of the Public Works Accounts Department have been taken over, and the Public Works Department Secretariat Offices will be relinquished in the next few months. The result will be a continuous and considerable saving in rent, better efficiency and, I hope, more economical working.

(*f*) *Drawing Office.*—This office has reached as high a state of efficiency as is compatible with cramped space, and Mr. A. B. Smart is chiefly responsible for the forward strides that have been made; he has administered the office with great ability.

During the year some extra plant was obtained to meet growing programmes and extensions of work in different directions.

The overflow portions of the various sections of this office are now being housed in the old offices of the Public Works Department, (Accounts Department,) which adjoin our present buildings. In addition, some slight extensions to the existing buildings are about to be carried out.

The office was inspected during the year by the Hon'ble Mr. LeMesurier, and, on the 23rd June 1911, Sir Lancelot Hare paid a visit of several hours' duration to the office, going carefully into many details of its organization.

A handbook is very urgently required for this office; this is receiving my attention, but I fear that it will be some time before a complete handbook can be written; for the present I propose to deal with each section in a separate pamphlet, and eventually to bring these pamphlets together into the form of a handbook. So far I have only been able to complete the necessary manuscripts for the Vandyke process, and these are ready for the press. Mr. A. B. Smart is assisting me in this work.

Further details regarding the Drawing Office will be found in the body of this report.

(*g*) My superior staff has now been fixed finally, and during the year Messrs. A. H. Pyster, A. F. Corridon, H. F. Berkeley, and E. A. Rampezzotti, who were working in the Department on an ungraded list, have been appointed Deputy Magistrates.

7. In paragraph 8 of my last report I discussed the question of obtaining a better paper for cadastral maps. I have now obtained a stock of hand-made paper which, although it is not exactly the same as the old form P 70, has been given that number. All the traverse plots of this survey year's outturn are being made on this paper.

With regard to printing these forms in the Drawing Office, steps have been taken to carry out this desirable object, and the forms used in this survey year have mostly been printed in the Drawing Office.

The Director of Land Records and I have decided that it will be best to experiment further with ·025 acre section paper before introducing it wholesale. Each Settlement Officer is being supplied with a suitable number of these plots for the next field season, and a further report will be made to the Board in due course. This section paper has now become generally known as the "Milligan tartan"; the term has the advantage of terseness, even if it lacks accuracy; at any rate it perpetuates the inventor's name.

8. In paragraph 11 of my last report I referred to a pamphlet which might be issued upon the clearing and demarcation of boundaries in this Province. The pamphlet has been finally completed during the year, and the rules which Government requires are under compilation. The Director of Land Records suggests that the rules should be written with direct reference to the different paragraphs of the pamphlet, and if the Board accepts this proposal, it will be carried out by the Director of Land Records and me in co-operation.

9. With regard to the question of the agencies that should grant leave under different circumstances to my officers and staff (*vide* paragraph 12 of my last report), Government, on the Board's recommendation, has in its Resolution No. 1567R., dated the 18th July 1911, accepted final proposals, and these are be included in the Survey and Settlement Manual at present under compilation by the Director of Land Records.

10. The questions referred to in paragraph 14 of my last report are met fully by the reconstitution of the Assam Traverse Section, referred to in paragraph 6 (*b*) *supra*, but it will take a few years to give full effect to the proposals so far as they affect extenison surveys.

11. At the Board's request, in November 1910, I paid a visit to Dhubri and thoroughly examined the Revenue record room of the District Magistrate's offices; the results of my enquiry were embodied in a lengthy note which has been accepted by the Deputy Commissioner and by the Commissioner, with some minor changes. The orders of the Board are awaited before full force can be given to the suggessions, but the Board is in general agreement with the proposals, and has asked me to report similarly upon other record rooms as opportunity occurs, but I fear that it will be a long time before any complete analysis of the map records of the whole Province can be made.

In any such analysis it is absolutely essential that I should have access to every report that deals with every survey that has taken place in a District and in some cases, the reports upon adjoining districts are also necessary.

Until the survey history of a district is properly understood nobody can say how its map records can be most intelligently classified and stored. In the case of the Goalpara district I was very greatly helped by Mr. T. Emerson, I.C.S., who, before I visited Dhubri, had carefully flagged all the survey correspondence in the office, from 1822 onwards. This, with such old reports as I have been able to obtain, has given the material for a proper classification for this district, and, incidentally, provided information which will enable me to publish a complete note, of a Gazetteer type, which will, I hope, give any officer, who is concerned with the administration of the district, information, in a concise form, that he would otherwise have great difficulty in obtaining. I have already written the necessary notes for most of the surveys in the Goalpara district, but cannot complete them until the records in the Revenue record-room are rearranged.

I have mentioned this subject at length, because I feel that until similar notes are compiled for each district in the Province, District Officers and others will work at a disadvantage that is capable of remedy. With my present opportunities it will take many years to compile these notes.

12. I have found that, throughout the Province, there is much misunderstanding as to the uses to which thakbast, khasra (old style), revenue and diara survey maps should be put. All these maps and their records are of the utmost importance in a great variety of land disputes and, until their separate

uses and functions are better understood, mistakes cannot but be freely perpetrated both in the courts, in district administration and amongst private parties. During the year I have compiled a set of notes which is freely illustrated with typical examples of the different maps; this book is ready for the press and is about to be published.

13. At the Board's request I have made some enquiries into the survey attainments of the staffs which are at the disposal of District Magistrates; from such few enquiries as I have had time to make, it is obvious that the sooner steps are taken to improve the standard of knowledge of each district staff, the better. I understand that both Members of the Board of Revenue have the improvements here referred to at heart, and that steps will be taken as soon as possible to remedy matters. Perhaps the remedy lies in the Survey Schools referred to in the next paragraph.

14. A conference was held at Dacca on August 15th, 1911, under the Hon'ble Mr. LeMesurier, C.S.I., C.I.E., I.C.S., to discuss the general question of survey education in the Province. The conclusions of the conference will be considered by Government in due course, and since the matter is, in a sense, *sub judice*, direct reference to the conclusions cannot be made here. One proposal, however, may be mentioned; it is that a definite line be drawn between the teaching of land surveying as opposed to engineering surveying, and it is in this proposal that the essence of the future training of land surveyors lies. If a separate syllabus could be devised to meet the requirements of individual cases (the survey staff of a District Magistrate being an individual case), and if classes could be formed for the teaching of each syllabus, a very great move would be made towards solving the difficulties referred to in the last paragraph, and probably towards efficiency in many other directions.

15. During the year I have reported to the Director of Land Records, in detail, upon the three Survey Schools that exist in Gauhati, Dibrugarh and Silchar, for the training of mandals. It is proposed to alter the syllabus of training, and perhaps to reduce the number of schools.

16. As a member of the Board of Examiners for the Survey Examination of pleaders to qualify them to act as Civil Court Commissioners in simple cases, I attended a meeting at the High Court, Calcutta, on July 15th, 1911. The Board of Examiners decided to work out a new syllabus of training and examination, and to submit it for the consideration of the Governments of Bengal and Eastern Bengal and Assam. Lieutenant-Colonel R. T Crichton, C.I.E., I.A., Director of Surveys, Bengal, and I were asked to make the new syllabus. Colonel Crichton was to note upon the training in levelling, and I upon the rest of the syllabus; I have received Colonel Crichton's proposals, embodied them in a new draft syllabus, and have forwarded that syllabus to the Secretary to the Examination Board. I also sent a copy to the Board of Revenue with my letter No. 3465—S.-13, dated the 28th September 1911.

17. The Inspector General of Police has decided that steps should be taken to teach the Sub-Inspectors, Inspectors and other officers of his Department sufficient of the elements of surveying to admit of proper plans being made to illustrate police cases. I was asked to make out a syllabus, but have had considerable difficulty, since the syllabus had to be based partly upon typical cases; these were not easy to obtain. Again, the question of how far existing maps could be used to reduce the time and labour required to produce efficient plans introduced complications.

I have now reduced the subject to a small hand book which can be published as soon as the Inspector General of Police gives me some further information which I require.

The Inspector General of Police wishes me to give some supervision to the teaching of this subject, which will only be taught in his main training school; with the Board's consent, I shall be glad to carry out his wishes.

I beg to acknowledge the help that has been given me in this case by Mr. Hughes-Buller, I.C.S., Inspector General of Police, and Major H. Chamney, C.M.G., who is in charge of the Police Training School.

18. A considerable increase in work has been causedb y many officers seaking advice upon cases in which maps are concerned. Such work is always welcome and I wish that it were more generally known that this is the case. From the 19th August 1911, Mr. T. Shaw, a Revenue Survey Officer of very wide experience, has been appointed as my Personal Assistant, and I shall now have more time to give to this important aspect of the work of my Department and shall also have the ready, valuable and cordial help of Mr. Shaw himself.

19. The Hon'ble Mr. LeMesurier has taken considerable interest in the reduction of miscellaneous printing in the Reproduction Section of the Shillong Drawing Office. In the last two or three years very great reductions have been made, and it is now proposed to reduce them further by standardizing skeleton maps for reports in such a way as to give each officer exactly what he requires at a minimum of expense; in other cases it will be possible to simplify the correspondence records of all cases in which index maps can reasonably be used, by a wide distribution of the standardized maps. The standardizing of these maps will increase general efficiency, and will be eminently economical; the development of the system is, therefore, being carefully carried out.

20. It is impossible in the compass that is allowed for my report to deal with a number of other cases, which might, with advantage, be recorded here, each of which calls for attention on my part; but I venture to think that the Board will agree that some progress has been made during the past year in the development of my Department on lines which should make it generally useful; by this means alone will it ever be worth the while of a Local Government to employ expensive professional establishments.

21. The supply of theodolite traversers being found to be lower than the demand, I obtained permission to start a school, with a course of 3 months' training, in Gauhati, in the hot weather of 1911. The school has been a success, mainly thanks to the great energy of Pandit Kundan Lal, Supervisor, and I expect that a number of suitable men will have been obtained at a cost to Government which, per head, is less than that which a tea planter is prepared to pay for a good labourer. The school and its results are being reported upon separately to the Board, and, at present, I cannot say whether it will be necessary to repeat the experiment or not. I prefer to see the results of the experiment *in the field* before committing myself.

22. The particular attention of the Board is drawn to paragraphs 4 6 to 8, 11 to 14, 16 to 20, 25, 41, 44, 45, 54, 74, 78, 81, 171, 179, 181, 182 to 187 and 195 of this report.

23. I beg to take this opportunity of thanking the Director of Land Records and his Settlement Officers, and many others who have helped me in my work, for the cordial co-operation and good will that they have extended, not only to me, but to all my assistants. If work has been heavy at times, it has always been lightened by the knowledge that if help was required, it would be freely and ungrudgingly given.

CHAPTER II.

PART I.

REPORTS ON SURVEYS IN TEMPORARILY-SETTLED AND GOVERNMENT ESTATES UNDER SETTLEMENT OF RENTS AND REVENUE.

LAKHIMPUR DISTRICT.

Traverse Survey.

24. The work in this district was carried out under Mr. A. F. Corridon, Deputy Magistrate, 6th grade, who held charge throughout the year under report.

25. The programme consisted of the completion of the district, all that remained being 125 square miles of tea gardens for skeleton survey. Of this area, only 64·04 square miles were completed and the balance, 60·96 square miles, are to be dealt with next season. The reason for the failure is that it was found to be impossible to induce the planters to demarcate boundaries, the exact limits of which they did not know. This is a result of a non-professional system of making the maps upon which tea grants are given out, and I have no hesitation in saying that, had the grants been made originally upon professionally made maps, it would have been possible to *relay* the boundaries of the whole programme with the staff used in the last field season.

During the development of Assam, a class of surveyor, known as the Government approved surveyor, has been brought into being, mainly because Government was unable to keep up its own staff; the approved surveyors, at present, hold one of the legitimate functions of my own Department, but their status is such that I feel that it would be unfair to them to suggest that my staff should take over their work, so long as they carry out efficiently what is required of them. At the same time there are two directions in which Government might fairly interfere, and, if Government interfered, no injustice would be done to any body.

First, it seems to be admissible for any approved surveyor to employ assistants, about whose qualifications Government knows nothing at all, to carry out surveys, for the approved surveyors; the resulting maps, without any check by the approved surveyor, may be accepted by a Deputy Commissioner, after they have been checked by one of his staff; after what I have written in paragraph 13 of this report, I did not discuss the value of this check, but it is obvious that, unless Government steps in and demands equal qualifications from approved surveyors *and* their assistants, no good, with any certainty, can result.

Secondly, the methods employed are not always such as I should use myself under similar circumstances. No attempt is ever made, so far as I know, to locate, geographically, any area surveyed.

In both these cases the remedy is obvious; Government can reasonably demand a definite standard of efficiency in the staff employed by an approved surveyor; it can hand over the checking of approved surveyor's maps to my Department and it can insist on scientific methods of survey being adopted.

Lastly, if work is proved to be improperly done, the license of the approved surveyor might be open to withdrawal.

If some such system as I have briefly outlined above had been in existence in the past, there would have been no failure in programme *at Government expense* during the last field season in the Lakhimpur district.

The planters should be compelled to clear their boundaries annually, and should also clearly mark, with pillars, the limits of the different grants (fee-simple, 30 years' lease, etc.) which make up a garden. Very stringent rules are required if Government is not to be a loser, as it has been in the past, by loose definition of boundaries, by indifferent surveys, and by the loss of boundaries, because they are not kept open constantly by proprietors or lease-holders.

I am no fire-brand that has arisen to combat the approved surveyor or to suggest the worrying of the Planter, and I venture to think that there is nothing written above that will not appeal to all right-minded Planters and approved Surveyors as fair criticism and fair dealing.

I offer no excuse but the above for a failure in programme which is the first that I have ever had to record, and I hope that the subject will receive the attention of the Board; under existing circumstances it is impossible for any officer of Government to estimate for the cost of such work as I have failed in, and yet it is obviously essential that Government should be in a position to know, at least approximately, what it will cost

to take up work of this nature, particularly as the case may, at any time, recur; I have attempted to outline the remedy and I confidently leave its redress in the hands of the Board.

26. The origin used was the intersection of North Latitude 26° 30′ and East Longitude 94° 30′, which origin serves both this district and that of Sibsagar.

27. In the area surveyed there were 6,064 theodolite stations; these were marked with 1,266 masonry pillars, 329 stone prisms, 4,456 wooden pegs and 13 galvanized cylinders; of these all but the wooden pegs were found upon the ground by the field staff, *i.e.*, they were old marks.

28. The mean magnetic declination is 1° East.

PART II.

Report on Surveys in Private Estates.

Mymensingh District.

29. The survey of this district was continued from last year; the areas traversed were :—

	Sq. miles.
Thana Gopalpur	272
„ Kalihati	194
„ Tangail	367
Thanas Durgapur and Netrakona *	35
Total ...	868

30. The origin of survey is the intersection of East Longitude 90° 30′ with North Latitude 24° 30′.

31. Special steps had to be taken to obtain efficient connections with triangulated points on the eastern side of the district.

Connecting lines were run from the traverse stations in thana Gafargaon to the Brahmanbaria and Haripur triangulated points in district Tippera, recently fixed by No. 12 Party (Survey of India). The connecting lines followed *thana* boundaries as far as possible, and will be used as main circuit stations for the adjoining thanas when those *thanas* are traversed.

The computations of the connecting lines will be finally closed during next field season.

The traverse work in thanas Gopalpur, Kalihati and Tangail was connected with six Great Trigonometrical Stations of the Brahmaputra series.

The average error of traverse per mile in feet is 7·15 feet.

32. The marks used at new traverse stations were :—

Stones	4,121
Pillars	21
Galvanized iron cylinders	995
Wooden pegs	17,567
Total ...	22,704

Special means were adopted to attempt to make the stations marked with wooden pegs sufficiently permanent to last through the cadastral survey next field season. In the past Settlement Officers throughout the Province have had great difficulty in finding the temporary marks put down by us. A very stout bamboo about three feet long was driven two feet into the ground

* At the request of the Settlement Officer, Mymensingh, this area was traversed for cadastral survey during the same season, because the contained villages appertain to pargana Sherpur; the completion of this area was required in order to effect partitions applied for by the Sherpur zamindars.

and allowed to protrude above the ground level by about one foot; earth was then mounded up round the peg and its top was painted red. This was an experimental measure and its results will not be known till next survey year.

32. The mean magnetic declination is 1° East.

34. The traverse plots fall upon 2783 sheets.

35. As usual the inhabitants were too apathetic to the operations to bother about preliminary demarcation.

36. The revenue survey maps of 1849—57 were used to guide the surveyors.

37. The health of the establishment was good, but there was a cholera scare at the beginning of the season; serious results were avoided by Mr. C. A. O'Donel's prompt action.

38. The traverse records are practically completed and all 16″ plots will be in the hands of the Settlement Officer in ample time for him to begin his field work punctually.

39. The country surveyed was very low-lying in the southern area of the programme, but with dry weather it cleared much more rapidly than was expected, with the result that where swampy areas were anticipated good riding country was encountered, but it is very doubtful if the Settlement Officer will be able to start work much before 1st December in the southern area, unless the rains close prematurely.

40. Some outlying portions of the high tract, known as the Madhupur Jungle, fall in this area. The Settlement Officer has agreed that if the traverse is found to be defective in those areas, he will take up the detail survey with the main block of the Madhupur Jungle in 1913-14.

This is a proper arrangement, since the high lands, owing to cultivation being scattered along old stream beds, in a most extraordinary way, will require special treatment from a traverse point of view. For next season's cadastral areas, the portions that may have to be omitted are trivial and their omission will cause no inconvenience.

41. Two peculiarities of the tract of country traversed are the extraordinarily small average size of villages and their irregular boundaries. These will give trouble to the Settlement Officer, just as, in the time of the revenue surveys of this tract, they gave trouble to both Revenue surveyors and Settlement staffs.

The villages average ·38 square miles each.

42. In addition to the main programme some preliminary traversing was done in the Jamuna diara, to admit of comparative maps being made at short notice for the Settlement Officer. This area is excluded from my area figures, but is included in the cost statements; a full report upon it will be given in my next report.

43. Next year's programme is the traverse of 421 square miles of Jamuna diara (the southern portion adjoining and belonging to this district) for cadastral survey the same season, and, in addition, the traverses of thanas Durgapur and Netrakona (780 square miles in extent). This raises the programme above the normal by about 50 per cent. In the uplands area the preliminary demarcation referred to in paragraph 6 (*b*) of this report will be done by the Settlement Officer and helped by the District Staff.

Dacca District.

Traverse Survey.

Relaying work.

44. 351·13 square miles of Thanas Srinagar, Narayanganj and Munshiganj were relaid during the year under report. The Statement given in

paragraph 50 of my last report gave ample reason for relaying in this district, and, in this area, the loss in old marks was found to be about the same as that experienced in the previous season.

45. The area consisted largely of very dense "basti" *lands, in which the old marks were seldom forthcoming, and in which more detailed methods of traversing were found to be necessary than had been used in 1906. The result is that the work resolved itself into a combination between relaying and re-traversing. Only those who have had close experience of the denseness of Munshiganj "basti" lands can form a proper opinion of how difficult they are to survey cadastrally; we have attempted to meet the requirements of the Settlement Officer by giving him a large number of points, and although this has increased my expenditure, it will reduce that of the Settlement Office to a very much greater extent.

46. I reluctantly ordered the whole of the traverse plots of the old work to be replotted; so much extra traverse had to be done, and, in some cases, so great was the distortion of the original sheets, that no alternative but replotting was left.

47. The number of stations used was 9,195 and these were marked with :—

			New marks.	Old marks.
Old stones	1,460	2,063	603 stones.	1,460 stones.
New „	603			
Old galvanized cylinders ...	1,054	1,573	519 cylinders.	1,054 cylinders.
New ditto ...	519			
Old pegs	258	5,559	5,301 pegs.	258 pegs.
New „	5,301			
			6,423	2,772
Total ...		9,195	9,195	

48. The 16″ plots fall upon 1,063 sheets.

49. The origin used was the intersection of East Longitude 90°30′ and North Latitude 24°30′.

50. The maps of the revenue survey of 1859-60 were used to guide the traversers, as well as copies of the data of the traverse work of 1906. As usual, no demarcation was done by the people themselves.

51. The traverse records are complete and the plots are under despatch to the Settlement Officer.

52. In the recess season 4″ comparative maps were commenced of the bed of the Dhaleshwari river. The area covered by these is 329·31 square miles. The work is not completed at the time of writing this report, and it will be dealt with in detail next year.

53. The programme for next field season is the traverse of thanas Kapasia and Raipura (800 square miles), and the preliminary traversing for comparative maps of 250 square miles of the Tippera, Dacca (Megna) diara, the traversing for cadastral in the same season of 100 square miles along the bed of the Buri Ganga and perhaps the traversing of the Dacca town for detail survey on the 64″ scale.

54. A new Traverse Detachment was formed for this district after my return from leave in September 1910; I had hoped that the necessary arrangements would have been completed earlier than they were, and as things

* "Basti" here means intricate village lands, so densely wooded with plantain and bamboos, as to make both traverse and cadastral work very difficult.

happened, the Detachment had to be made against time. The charge was given to Mr. Graham Lee to whom my apologies are due for a somewhat defective *bandobast*; he, however, despite the fact that he was hampered by an incompetent assistant who has since left the Department, made the best of things and carried out his programme fully to my satisfaction. No miscellaneous work was given to this Detachment, since I did not think that the staff could bear a greater strain than I had already placed upon it.

55. No Great Trigonometrical Connections were made (*vide* paragraph 58).

Dacca District.

Traverse Survey.

New traversing.

56. In addition to the 351·13 square miles of relaying work referred to above, Mr. Lee's Detachment traversed 221·84 square miles of thana Rupganj of the Dacca district, the same origin as is given in paragraph (49) being used.

57. The marking of temporary traverse stations was done on the same system as was used in Mymensingh district (*vide* paragraph 32) both in the new traverse and in the relaying area of this district.

58. No connections with the Great Trigonometrical Survey were made, the work being carried on from values given to the main traverse work of the survey year 1909-10. This will not lead to inaccuracy, as we shall connect across the Megna in the next survey year.

59. The traverse plots of new traversing and relaying work fall on 687 sheets.

60. The marks used at new traverse stations were :—

Stones	951
Galvanized cylinders	158
Wooden pegs	5,078
Total	6,187

61. The mean magnetic declination for the whole district is 0° 45′ East.

62. No preliminary demarcation was done by the inhabitants.

63. The maps of the revenue survey of 1859-60 were used to guide the traversers.

64. The establishment's health was good.

65. The traverse records are complete and all 16″ and 4″ plots have been despatched to the Settlement Officer.

66. The uplands programme for the next season will be demarcated for us by the staff of the Settlement Officer and District Officer.

Rajshahi District.

Traverse Survey.

67. No. 1 Traverse Detachment (Mr. O. E. C. Judd) was transferred from Jalpaiguri, after the completion of the district, to the Rajshahi district, for

the traverse survey of the Nator subdivision. The areas traversed are as follows:—

	Sq. miles.
Thana Nator	209·03
„ Burigaon	195·53
„ Singra	307·70
„ Lalpur*	96·62
Total ...	808·88

The thana marked with an asterisk was not completely traversed, as the riverain area was omitted.

68. The origin accepted for the district is the intersection of East Longitude 88° 30′ with North Latitude 24° 30′.

69. Three Great Trigonometrical Stations were connected with, one in Pabna and two in the Murshidabad district; but as these lay at a distance, they do not give a correct estimate of the accuracy of the work done in Rajshahi. In the next area to be taken up, there are several Great Trigonometrical Stations that can be connected with, and I do not propose to allow final values to be assigned to the work done this year until those connections are effected.

70. The marks used at new traverse stations were:—

Stones	3,706
Pillars	52
Galvanized cylinders	343
Wooden pegs	20,326
Total ...	24,427

71. The mean magnetic declination is 1° 00′ East.

72. The traverse plots fall upon 2,134 sheets.

73. Little or no preliminary demarcation was done by the inhabitants.

74. Pemberton's revenue survey maps of 1850—1854 were used to guide the surveyors. The average size of village is ·51 square mile, which is unusually small; and, to make traversing more difficult, the boundaries of the revenue survey villages are very irregular. These facts affect cost rates adversely.

75. The traverse records are nearly complete and the plots were ready for despatch to the Settlement Officer, when I heard that the Rajshahi settlement operations were to be postponed for one year. To keep cost down, therefore, I have shelved the completion of this work till next recess.

76. The next programme to be taken up lies in the Rampur Boalia subdivision and also includes preliminary traversing for 4″ comparative maps for the diaras of Nadia, which adjoin the Rajshahi and Pabna districts. I am now arranging for the preservation of the marks put down in the Nator subdivision, since they will not be required by the Settlement Department till the cold weather of 1912-1913.

77. This Detachment was hampered by a low-lying country to traverse, and by a large number of miscellaneous jobs that I was compelled to throw upon it. Portions of the Nator subdivision were not clear of water until very late in the season. Mr. Judd did very well to get through a heavy and intricate programme; but he was compelled to stay in the field till June. This has entailed arduous work for the staff during recess.

78. Mr. Barnes, I.C.S., Collector of Rajshahi, gave Mr. Judd and his staff a very great deal of help; owing to the small size of villages encountered, the average number of traverse stations per square mile just exceeds 30, *i.e.*, one mark has been used for approximately every 21 acres. Had it not been for the help given by Mr. Barnes, it is not improbable that there would have been a partial failure in my programme in this district.

79. The magnetic declination for this district is 1° East.

PART III.

Report on Miscellaneous Surveys.

(Report on Surveys carried out by the Assam Traverse Section.)

Gauhati Town Survey.

80. At the request of the Director of Land Records a traverse survey of Gauhati town (2½ square miles), situated within the limits of the municipality, was carried out early in 1911. A new detail survey was required to replace the existing maps which were unreliable.

81. The last survey was made about two years ago by Settlement mandals. This work was proved to be untrustworthy, the mandals not possessing the requisite skill and experience to work from the old traverse stations. The reason for the failure was that the mandals were not given sufficient traverse stations to work upon.

To prevent any chance of inaccuracy, I ordered the number of traverse stations to be increased very greatly; 933 stations were provided and they helped not only to reduce the amount of chaining to be done by the mandals to a minimum, but also ensured accuracy in regard to details.

In cases of this sort the extra expenditure involved by close traversing is an insurance against bad work, and it should be remembered that mandals should always be given about twice as many marks in urban areas as well-trained amins would require.

82. Mr. A. F. Corridon, Deputy Collector, Officer in charge of Assam Traverse Section, was in charge of the work.

83. The origin of the survey is the intersection of North Latitude 26° 30′ and Longitude East 90° 30′, the same as that of Goalpara district. The old value of the Madras Observatory was retained to make the work fit in with the surrounding and older surveys.

84. The town was divided, for purposes of survey, into 6 blocks corresponding to the number of municipal wards, each block representing a ward. Interior traversing was carried out under difficulty, as the amount of jungle, under-growth, valuable fruit and other kinds of trees, and fencing met with was considerable.

85. The theodolite stations were marked as follows:—

Two masonry pillars, 29 stone prisms, and 902 bamboo pegs.

The Deputy Commissioner is arranging to permanently mark a number of the temporary stations, and I have given the Sub-Deputy Collector, who will perform this work, full instructions as to how it can be done accurately.

86. The magnetic declination is 1° 15′ East.

87. The scale used was 32″=1 mile, and the traverse plots fall upon 12 sheets.

88. The traverse was immediately followed by a cadastral survey, the work being done by selected mandals from the Kamrup district.

Six mandals were employed for this purpose.

89. The cadastral survey was carried out expeditiously and was completed by the 20th August 1911.

90. Heavy partalling was considered necessary and this was entrusted to Mr. A. F. Corridon, Deputy Collector, Babu Bhola Nath Das, Sub-Deputy Collector, and Munshi Mahanand Thaplyal of the Eastern Bengal and Assam Survey Department. I also inspected the work myself on several occasions.

91. I am of opinion that the mandals have done the survey honestly and accurately.

Dibrugarh Town Survey.

92. At the request of the Settlement Department a traverse of the Dibrugarh Municipality was commenced in July 1911. The survey is required to give a basis for a new detail survey of the town, this being necessary in consequence of the changes and additions which have occurred since the cadastral survey of 1895-96.

The work, which was much retarded by unfavourable weather, is now approaching completion, and the traverse sheets are being supplied to the Settlement Department as soon as each block is completed.

93. There are eight blocks, or municipal wards, in the area under survey.

94. The mean magnetic declination is 1° East.

95. The detail survey will be done by specially selected Supervising Kanungos under the direction of the Settlement Officer.

96. Full details regarding the number of theodolite stations, etc., will be given in my next report.

[PETTY SURVEYS UNDERTAKEN BY TRAVERSE DETACHMENT No. II (E.B.)]

Chittagong Town Survey.

97. The preliminary traversing was started early in January when three traversers were sent into the area.

Three thousand and ninety-one traverse stations were fixed, which form an ample basis for the detail survey. The traversing was completed by the end of February, and the detail work on the scale of 64″=1 mile was started early in March.

98. The area, which is 4·34 square miles in extent, is divided into five municipal wards, and will be mapped on 77 sheets on the scale of 64″=1 mile.

99. The following sheets have been completed in detail survey :—

	Sheets.
Ward A	22
Ward B	12
Total ...	34

The detail work has been partly completed in 5 sheets.

100. This survey was discontinued on the 20th June, owing to continuous rain, which made further field work impossible.

101. The work remaining to be done is :—

(*a*) Completion of the detail survey in 43 sheets.

(*b*) Preparation of a record of occupancy.

(*c*) The survey of the revenue holdings contained in the area (if the Director of Land Records requires this to be done).

The work was checked throughout by Mr. Rampezzotti, Deputy Collector and Supervisor, Mayadhari.

Survey of scattered villages in district Cachar.

102. The programme consisted of the traverse of 67 scattered villages and the re-traverse of 13 villages.

103. Two traversers were employed from the beginning of November to the end of April, when it was found impossible to continue field work owing to the rains having set in.

104. On the arrival of the traversers in the district it was found that the village boundaries had not been cleared. This caused very great delay and hampered the progress of the work throughout the season. Almost all the villages are situated in very heavy jungle and several were found to be uninhabited.

105. In all, 27 villages were traversed and the 16″ sheets were sent to the Deputy Commissioner during the field season. Thirteen villages were retraversed and fresh plots were prepared and sent to the Deputy Commissioner, as the data of the former traverse was not available.

106. The villages were plotted on 58 sheets. Two thousand and thirty-five new traverse stations were fixed and the angular work was checked by azimuths observed at 42 stations. The area traversed is 24·8 square miles.

107. The villages are scattered over a large part of the district and it was not found possible to connect them with the traverse of former surveys.

This will be done later on.

One trigonometrical station was conneced with.

The expenditure on this work during the survey year includes *Rs. 867 on account of* line-clearing.

Traverse for the geographical location of scattered Government Estates in the Sylhet District.

108. The work was started early in December and three traversers and squads were placed under the Deputy Commissioner; they were employed in the district throughout the field reason.

109. The survey was carried out by running main circuits round areas in which there were a large number of estates, or *tukras** situated near each other. Sub-circuits were then run through the main-circiuts, taking up, as far as possible, all estates and *tukras* contained in the main circuits.

110. The following statement shows the number of main circuits, etc., used :—

——	Main circuits.	Sub-circuits.	Estates and *tukras* connected.	——
Karimganj subdivision. ...	3	29	925	
Ranga pargana ...	1	7	97	
Jalalpur „ ...	1	1	21	
Baraya „ ...	1	6	111	
Dhakadakshin pargana, including Bhadeswar pargana.	1	15	231	
Khitta pargana ...	1	10	65	
Kauria „ ...	1	5	119	
Dohalia „ ...	1	1	13	
Bejura „ ...	1	14	165	
Pagla „ ...	1	4	26	
Lakhai „ ...	1	1	11	
Hauli Maurapur ... Hauli Muktarpur ...	...	...	6	By connecting lines.
Total	13	93	17,90	

*Detached portions.

111. In estates or *tukras* in the Karimganj subdivision, which had not been previously cadastrally surveyed, three traverse stations were fixed and the measurements of the lines between the stations were given by the traversers to the demarcation amins who accompanied each traverser. These lines were intended to form the basis for the cadastral survey of the estates.

In estates or *tukras* in the Karimganj subdivision, which had been previously cadastrally surveyed, only one traverse station was fixed and the mahal number of the estate or *tukra* was recorded in the traverser's field-books.

These mahal numbers have also been given in the traverse tables.

In the other parganas it was usually found that the estates were too small, and too close to each other, to allow of a station being fixed in each *tukra* or estate. In such cases the traverse lines cut through several small estates or *tukras*, and those mahal numbers only in which the traverse stations themselves fall, have been recorded in the field-books and traverse tables.

112. In parganas Hauli Maurapur and Hauli Muktarpur, the estates and *tukras* were found large enough to be traversed as separate blocks. In these parganas six estates or *tukras* were traversed as blocks and the 16″ plots on 6 sheets have been sent to the Deputy Commissioner.

113. The number of new traverse stations fixed in the district was 3,621 and the linear miles of new chaining is 857 miles. Ninety azimuths were observed and the work was connected with 8 Great Trigonometrical Stations. The average traverse error per mile is 13·4 feet. This error is large, and is due to the traverse lines running very indirectly from one Great Trigonometrical Station to another. In all cases the block errors of the main circuits are less than 1 link in 20 chains.

Fixing intermediate pillars along Tippera-Hill Tippera Boundary.

114. A traverser and squad were sent in March 1911 to fix positions for intermediate pillars along a portion of the boundary between District Tippera and Hill Tippera. The boundary which required intermediate pillars fixed thereon runs directly from one pillar to another, a distance of a little over a mile ; but owing to the land being slightly undulating, the pillars were not intervisible.

115. The positions of three intermediate pillars were marked on the ground, and a trace showing their positions was prepared and sent to the Collector of Tippera. The positions of the intermediate pillars were checked on the ground and the work has been connected with the Brahmanbaria triangulated station.

Refixing of position of pillars Nos. 14, 15, 16 *and* 17 *on the Khasia Hills-Sylhet Boundary.*

116. A traverser and squad were sent early in January for the preliminary traversing in connection with this work.

117. A kanungo was deputed by the Deputy Commissioner of Sylhet to point out to the traverser the positions of some existing pillars, but it was found, on comparing the positions of the pillars as they exist and as they are shown in the Revenue Survey records, that some differences occur. Of pillars Nos. 18 to 23 which were pointed out to, and connected by, the traverser, it was found that pillars 18, 19, 21, 22 and 23 were out of position by amounts varying between 60 links and 5 chains. It was therefore found necessary to

make further connections and the traverse was finally connected with the Taraman Tila Great Trigonometrical Station and the Fushkergaon permanent pillar.

A comparative map was prepared and from it the positions of pillars 14, 15, 16 and 17 were refixed on the ground. At the time of refixing the positions of these pillars on the ground, two old pillars were found corresponding in position with pillar Nos. 14 and 15 as given in the revenue survey records. These pillars are situated in very heavy jungle and their existence was not known to the inhabitants.

The positions of pillars 16 and 17 were marked by temporary marks and the Subdivisional Officer of Sunamganj is arranging to mark them permanently next cold weather.

118. The majority of the pillars are not shown on the revenue survey maps, but their positions are given in the traverse records. It appears that the pillars were erected at some time subsequent to the revenue survey, as, in most cases, they are not traverse stations of the revenue survey. This accounts for wrong positions having been assigned to some of the permanent pillars.

119. This survey was much delayed owing to the difficulty in finding points upon which to base the work, and it was not until late in the season that the refixing of the positions of the pillars required was completed.

Demarcation of three villages in District Malda (Haripur).

120. This survey consisted of the demarcation of the boundaries, 9·3 linear miles in length, of mauzas Parar Danga, Aga Danga and Pathar Danga, according to the cadastral survey of 1888-89. The preliminary traversing was started early in March. As the traverse data of the survey of 1888-89 was not available, it was found necessary to fix the boundaries as far as possible by means of the details given on the 16″ cadastral sheets. The traverser deputed for the work was instructed to take up village trijunctions pillars and natural features.

121. It was found on comparing the cadastral sheets with the plot of the traverse stations that four trijunction points were common and that the banks of a stream passing along the boundaries also corresponded closely. By means of these common points, a comparative map was prepared showing the village boundaries and the present traverse stations.

The boundaries were then fixed by offsets on the ground, and were demarcated by 12 pucca pillars and 243 temporary marks.

122. A trace showing the boundaries and the points demarcated has been sent to the Collector.

Dacca Town 6″ = 1 mile Survey.

123. The detail survey on the scale of 6″=1 mile of the country round the Dacca town was undertaken during the field season.

124. The area surveyed in detail amounts to 47 square miles, exclusive of the area surveyed on the 6″ scale last season and of the old Dacca town.

125. Three amins were employed from the beginning of December to the end of April. The work was frequently checked by inspecting officers and was found to be accurate.

126. The area was surveyed on 7 sheets. These are being fair drawn, and as soon as the fair maps are complete, they will be sent to the Drawing Office for reproduction.

127. As the old Dacca town may be surveyed on a large scale shortly, the area of the old town will not for the present be included in the fair maps.

[PETTY SURVEYS UNDERTAKEN BY TRAVERSE DETACHMENT No. I E. B.]

Relaying of boundaries of Taria Pargana and its contained villages, District Goalpara.

128. The traverse survey and the temporary demarcation of the whole pargana was completed in the field season 1909-1910 (*vide* paragraph 89, *et seq.*, of my last Annual Report). After its completion the arbitrator, Mr. C. K. Sen, asked for the embedding of permanent marks their positions being shown on the plans from which the relaying was done.

It was understood originally that the arbitrator, using the 4″=1 mile traces of the maps from which the relaying was done, with the help of the temporary demaracation carried out in 1909-1910, would embed permanent marks on all undisputed boundaries and decide all disputes. The arbitrator could not get this work done satisfactorily by the amins at his command, and he suggested that we should carry out the embedding of permanent marks. In addition some of the temporary marks embedded in 1909-1910 had been removed by unknown agents and such portions had to be redemarcated.

The zamindars agreed to accept the lines as relaid by us without any modification.

129. One traverser, 2 tindals, 2 mates and 8 khalasis under the supervision of Mr. O. E. C. Judd, were detailed for this work.

130. Work was commenced on the 7th January 1911, but owing to the indifferent help given by the amins who were deputed by the interested parties to assist the surveyor, progress was very slow and, although every endeavour was made to complete the programme during the season, work had to be closed on the 5th June 1911 because of heavy rain and inundation; some permanent demarcation work remains to be taken up next season for which the services of one traverser and squad will be required for about 3 months.

131. One hundred and ninety-six concrete pillars and 741 angle irons were embedded during the season; of these 100 concrete pillars and 444 angle irons are in the main block of the pargana; whilst 96 concrete pillars and 297 angle irons fall in the scattered villages; besides these, 20 reference pillars were erected in villages Bamandanga, Jhounkatee, Sunbadda, Kulseekuri, Kedar and Baherkedar.

These reference pillars had to be erected, because the boundaries of the villages bordering on the estate of the Maharaja of Kasimbazar, who is not a party to the dispute, are to be accepted according to present possession.

Thus, wherever the boundaries of Taria villages touch on estates of the parties interested in this case (Gauripur, Parbatjoar and Bogribari), the boundaries have been demarcated according to Bedford's maps of 1842-1843 with modifications made by the arbitrator in disputed areas, and permanent marks have been erected; but where they adjoin the estate of the Maharaja of Kasimbazar and others not interested in this dispute, the boundaries according to present possession are being retained and reference pillars erected inside the Taria villages, simply to locate, hereafter, the possession lines which are being mapped on the plans from which Bedford's lines are being relaid.

132. A small block of about 13 bighas of pargana Ghurla, which falls inside village Bamandanga of pargana Taria, has not been demarcated according to Bedford's map, but has been surveyed according to present possession. This block does not appear in Bedford's 2″=1 mile map but is shown in his 4″=1 mile plans of detached blocks.

133. By the agreement referred to in paragraph 131 and on account of decisions in disputed boundaries, etc., made by the arbitrator, many boundaries of the maps of 1842-1843 are affected and the limits of the pargana and

most of its villages are being altered. The Surveyor General will be informed of the changes that have occurred.

134. The whole of the permanent demarcation done during the season was checked by Mr. H. F. Berkeley, Deputy Collector.

135. The expenditure on this work is met by private deposits.

Relaying of chur lands opposite Goalpara.

136. The limits of certain churs which form a Government estate opposite Goalpara were required to be mapped in such a way that the Deputy Commissioner's staff could locate them and find the limits of the estate at any time. It was understood that the Government claim was according to Major MacDonald's survey of 1873-1874 (2″=1 mile). As the area falls roughly in a triangle formed by the 3 Great Trigonometrical Stations, Jogighopa, Langtia and Goalpara, it was thought that a Sub-Deputy Collector (if given an accurate copy of this portion of Major MacDonald's work which copy shows the churs and the correct position of the various Great Trigonometrical stations along the Brahmaputra) could, by plane table fixings, relay the limits of the estate. In consequence some Vandyke copies of the portion of MacDonald's map were supplied to the Deputy Commissioner.

The Deputy Commissioner, in March 1910, desired that the work be undertaken by the Survey Department, as the Sub-Deputy Collector was doubtful of being able to do what was required, but as no competent man was available at that late stage of the field season, the survey was postponed and taken up during the year under report.

137. One traverser, two tindals, 2 mates and 6 khalasis were told off for the work, which was executed under Mr. Judd's orders.

138. Surveying commenced on the 1st March 1911, a Sub-Deputy Collector being deputed by the Deputy Commissioner to accompany the traverser and learn how the relaying should be done.

139. Shortly after relaying had been commenced according to the map of 1873-1874, the Sub-Deputy Collector reported to the Deputy Commissioner that the limits according to the plan supplied to the traverser did not correspond with the *chur* maps in the Deputy Commissioner's office ; it was then found, on obtaining the other set of maps, that Major MacDonald had made a separate survey of the churs in 1874-1875 and that there were great differences in the limits according to the two surveys ; by this time the relaying according to maps of 1873-1874 had almost been completed and the Deputy Commissioner was informed accordingly, and asked whether he wanted the relaying by the maps of 1874-1875 and, if so, the demarcated line of 1873-1874 could be destroyed ; in his reply the Deputy Commissioner decided that the limits of the churs should be relaid according to the 2″=1 mile index map of 1874-1875, and that the demarcation already done should not be destroyed, but both the maps kept until Government decided which was to be accepted.

On this request the lines of 1874-1875 were also relaid and the posts demarcating this line partially coloured red to distinguish them from the lines of 1873-1874.

Besides the above, the positions of all churs in the area were surveyed according to present position.

140. This work was completed on the 11th April 1911 and I am now awaiting the Deputy Commissioner's instructions as to what boundary is to be finally accepted.

Relaying of boundary between Parganas Guma, Ripu, Sidli and Bijni on one side and Ghurla, Parbatjoar and Khuntaghat on the other.

District Goalpara.

141. Some *sal* trees were felled in 1902 by a dafadar of the Bijni estate, and this action was objected to by the Forest Department, on the ground that

the trees were on certain *khas* lands; the Bijni estate then desired to have the boundaries between the Khuntaghat pargana and the Sidli Duar demarcated with reference to authoritative maps. The Sub-Deputy Collectors who were stationed in the Goalpara district, from time to time, since that year, were ordered to make a survey and settle the dispute, but failed to reach any definite issue. About this time a fishery question between the Bijni Raj and Government arose along the Khuntaghat and Sidli boundaries, and this called for further demarcation and it has now been decided to relay the whole boundary between the temporarily-settled Duars and the permanently-settled tract to the south of them.

The work done during this year consisted of running a traverse approximately along the whole length of this boundary (about 80 miles). The actual relaying will occupy two more seasons, about 40 miles being relaid in each season.

142. Two traversers, 6 tindals, 4 mates and 16 khalasis were deputed for this survey.

143. Traversing was commenced, simultaneously from both ends of the boundary, on the 4th December 1910, the men following the pargana boundaries as closely as possible, and using all old permanent marks that were found as traverse stations. The two traversers connected their work on the 23rd April 1911.

144. Traces of Major MacDonald's and O'Donel's original maps were used to guide the traversers.

145. The theodolite traverse was started from station (d^7) of the traversing done in season 1909-10, for relaying the boundaries of villages Adardia and Srijangram, which lie in the north east corner of pargana Khuntaghat (which traverse was in turn connected with the traversing of season 1908-09 for the relaying of part of the Goalpara-Kamrup district boundary) and closed on station (S^3) of Main Circuit No. 8 of traversing done for cadastral proposes by No. 6 Party in district Jalpaiguri in season 1907-08.

146. Two hundred and forty-one linear miles of traversing were done; 55 Azimuth observations were made and 41 used; 34 masonry pillars, 43 stone prisms, and 1 earthen mound found on the line, were used as theodolite stations; in addition 1,450 wooden pegs were embedded and 11 trees (sawn off) were used as traverse station marks.

147. The boundary passes through country which, in places, makes traversing very difficult indeed. Sometimes it follows the banks of rivers and streams where grass and reed jungles 8 to 10 feet high grow luxuriantly. Sometimes low and swampy ground is encountered and at others heavy scrub jungle very difficult to clear; only a very small portion of the boundary is open and there the line runs through rice fields. The staff experienced great difficulty in clearing lines and carrying through the traverse and this is the cause of the chaining results not being satisfactory.

148. Three principal Great Trigonometrical Stations were connected with, (Bhairab, Bankimari and Dhadial).

The values of these and the origin co-ordinates of the starting and closing points of the traverse are being used for correcting the errors in chaining.

149. The origin of survey is the intersection of Longitude East 90°-30′-00″ and Latitude North 26°-30′-00″ which has been retained for all traverse work done in district Goalpara since 1908-09.

A correction of 2′·27″·18 in Longitude has been applied in computing the rectangular values of great trigonometrical stations, and for the purpose of obtaining the convergency applied to observe bearings, in order to refer the work to the most recent value of the Madras observatory.

150. The traverse computations were kept up to date, but it was found, on the two traversers' connecting their work, that the chaining was incorrect in places and these portions were being revised when work had to be closed on the 15th June 1911 owing to wet weather and sickness. It was useless to keep the staff in the field and I was reluctantly compelled to withdraw it.

The checks still to be imposed will be completed next field season.

151. Major MacDonald's traverse of 1873-75 has been converted and referred to our origin; and as he made traverse stations of some of the masonry pillars which I have used as traverse stations, and as others were taken up in such detail survey as took place this year, if we find that the values of these agree closely by the two surveys, then both sets of traversing may be plotted on one set of sheets and MacDonald's line transferred by offsets.

This method of obtaining a comparative map was followed in relaying MacDonald's line along part of the Goalpara-Kamrup district boundary in seasons 1908-09 and 10. If the co-ordinate values of common points do not agree closely, I would suggest the transferring of the old boundary by using common points picked up during our traversing.

Relaying of a portion of the boundaries of Parganas Guma and Ghurla, District Goalpara.

152. A dispute arose between Government and the Gauripur estate regarding a part of the Gadadhar river, which in this place falls on the boundaries of parganas Guma and Ghurla, the former being Government property and the latter belonging to the Gauripur Raj.

In April 1889 Mr. Godfrey, then Deputy Commissioner of Goalpara, decided the dispute in revenue miscellaneous case No. 6 of 1900; it was ordered that the boundary be relaid according to the line of Mr. O'Donel's second survey of 1867-68 and that the petitioner, the Raja of Gauripur, should erect permanent marks at the salient points marked 1 to 8 in the dispute case map; these marks were to have been erected in the presence of officers of the Government and of the Raj, but as the Government Supervisor Kanungo was ill, it was settled that the Gauripur officers would lay down the line, which would afterwards be checked by the Supervisor Kanungo and, if found correct, the permanent marks would be erected.

The line was then laid down; afterwards Sub-Deputy Collector Mafizar Rahman checked the work and rejected it as incorrect; the case was left incompleted until I took it in hand.

The Deputy Commissioner consulted me in 1909 and asked me to relay the boundary between Guma and Ghurla according to Mr. Godfrey's decision.

The Dewan of Gauripur, in his letter No. 259, dated the 4th July 1911, to the Deputy Commissioner, requested that the cost of survey be borne jointly by Government and the Raj estate, the estate supplying materials, etc., for erecting the necessary permanent marks.

153. This work was really a portion of the relaying of the southern boundaries of Duars Guma, Ripu, Sidli and Bijni where they adjoin Ghurla, Parbatjoar and Khuntaghat, which relaying was included in my programme as a separate item. In consequence of this, the traverse for relaying Mr. Godfrey's line was done in continuation of the traversing for the total length of boundary to be demarcated.

154. Owing to the difficult nature of the country and the great distance at which the nearest Great Trigonometrical Stations fell, the chaining has not proved from a point about 5 miles west of the trijunction of parganas Guma Ghurla and Parbatjoar up to Great Trigonometrical Station Bhairab. This traversing must be checked next field season, when it will be possible to compare Mr. Godfrey's line and Mr. O'Donel's survey of 1867-68 with the traversing of 1910-11, and from a comparative map so constructed, to relay the boundary required.

Relaying of a portion of the Rangpur Cooch Behar boundary.

155. In 1899, owing to changes in the course of the Teesta river, which forms the boundary between the Cooch Behar State and British Territory, on

the western boundary of Chatnai estate certain chur lands were formed, to which the raiyats of Cooch Behar and of Rangpur both laid claim. After the Cooch Behar authorities had visited the spot and given possession of the disputed lands to their raiyats, the Rangpur cultivators prayed that a demarcation of the boundary should be made. Several enquiries were made; the Cooch Behar authorities claimed half of the river bed, while the Collector, on behalf of Government, claimed the whole of it.

At last it was decided to settle the matter amicably and a meeting consisting of an expert from Cooch Behar State, the Collector and the Senior Deputy Collector of Rangpur was held on the 30th July 1906; after discussion as to the meaning of lines and colours used on several maps it was found impossible to arrive at a settlement; it was then resolved that the decision of the questions as to whether the river was excluded from or included in Rangpur, or whether it formed the common boundary between Rangpur and Cooch Behar in Mr. Pemberton's revenue survey maps of 1857-58, be referred to the Surveyor General of India, the representatives binding themselves to abide by his decision. The Surveyor General's opinion was to the effect that the boundary was the west bank of the river; by this decision the whole of the river bed is included in British Territory; at the request of the Commissioner of the Rajshahi Division arrangements for relaying the boundary were made by me.

156. One traverser, 2 tindals, 2 mates and 6 khalasies were told off for the survey, which was carried out under Mr. O. E. C. Judd, work being commenced on the 2nd March 1911.

157. A thedolite traverse was started from station Q^{12} of Main Circuit No. 9 of the traversing done in district Jalpaiguri in season 1909-10 and continued *via* the disputed boundary (which is about 15 miles from the starting point) to Balapara Great Trigonometrical Station.

158. Six old masonry pillars—falling along the disputed portion—were picked up and used as traverse stations; it was found that these permanent marks had been mapped in Mr. O'Donel's survey of 1867-68, but no permanent marks appear along this portion in the maps of Mr. Pemberton's survey of 1857-58 from which the relaying was to be done. On a comparison of details of O'Donel's and Pemberton's maps many natural features were found to agree; the positions of the banks of the river were first obtained with reference to our traversing by fitting on a trace of Mr. O'Donel's map using the pillars common to the two surveys; then a trace of Mr. Pemberton's map of 1857-58 was fitted on by details common to O'Donel's and Pemberton's surveys and we thus obtained Pemberton's boundary with reference to our traversing.

159. The temporary demarcation with bamboo posts and cuttings of trees was completed on the 8th April 1911.

160. The total length of boundary relaid is 5 miles.

161. Nineteen linear miles of main traversing were run, 5 azimuths observed and 5 azimuths used; 7 permanent marks—(masonry pillars) were picked up as traverse stations and 58 pegs embedded at traverse stations.

162. The error per mile of traversing is 3·1 feet per linear mile.

163. The origin of survey is the intersection of $\frac{\text{Latitude } 20^\circ\ 45'\ 0''}{\text{Longitude } 89^\circ\ 30'\ 0''}$.

164. Two Kanungos, one from Rangpur and the other from the Cooch Behar State, accompanied the traverser.

Information regarding the completion of temporary demarcation was conveyed to the Collector, Rangpur, and the Revenue Officer, Cooch Behar, on the 11th April 1911.

165. The only work remaining to be taken up in the ensuing season is the erection of permanent boundary marks and the surveying of the same, when fixed, on to the map from which the relaying has been done. Copies of the traverse sets up and traces of the plan have been supplied to the Collector of Rangpur and the Revenue Officer, Cooch Behar; on the traces the positions of eleven points have been marked where pillars should now be erected for clearer demarcation; it has been decided that masonry pillars 3 feet high and

2½ feet square with a 2 feet foundation, be built, and the Dewan of Cooch Behar has been asked to have the necessary materials and masons, etc., at Chatnai on or about the 15th November 1911 when a traverser will be sent to have the marks erected and to survey them on to our map.

SHILLONG DRAWING OFFICE.

166. Mr. A. B. Smart held charge of this office throughout the year. Early in the year Mr. P. F. Delaney, upon return from leave, replaced Mr. H. F. Berkeley as Mr. Smart's Assistant. The strain on the whole staff has been considerable, but has been cheerfully carried out.

167. The following machinery has been added to this office during the year :—

One double-demi lithographic machine press, one paper cutting machine, one copper plate printing press, and an Albion Type-printing press. In addition, certain accessories which will tend to general improvement have been bought. These machines, etc., have not been installed at the time of writing ; there has been delay in the provision of excess office accommodation, but I understand that the necessary extensions are about to be commenced.

The effect of this extra machinery should be to reduce the cost of reproduction.

168. During the year the office has been inspected by the Civil Surgeon twice, and by the Inspector of Factories once.

The factory is not registered under the Act, but no objection has been raised either by the Deputy Commissioner or the Inspector of Factories. All the general provisions of the Act are complied with.

169. The work of the whole office is detailed below, section by section. The General Section, which supervises the others, is not reported upon as its work is of an indirect nature.

Reproduction Section.

170. The outturn for the year is 399,496 copies of maps, as against 168,910 in 1909-10 and 123,195 in 1908-09.

This year's outturn approximates that for which the office was organized, *viz.*, 400,000 copies of maps. The aggregate, 399,496, includes a number of colour prints, and it therefore exceeds what we may look upon as a normal output for this section.

171. The tables below give the output under three headings :—

Settlement Reproduction.

	Serial No.	District.	Number of villages.	Number of sheets.	Copies printed.	Average copy order.
1	2	3	4	5	6	7
Eastern Bengal	1	Faridpur	698	813	214,401	264
	2	Mymensingh ...	324	366	24,934	68
	3	Bakarganj	52	195	17,478	89
	4	Chittagong	378	1,601	9,424	6
	5	Dacca	8	8	3,880	49
	6	Rajshahi	7	7	2,350	34
	7	Jalpaiguri	28	56	2,120	38
	8	Malda	10	10	1,000	100
		Total	...	...	275,587	...
Assam	9	Lakhimpur	419	389	16,921	44
	10	Sylhet	66	66	2,605	39
	11	Goalpara	183	183	1,858	10
	12	Kamrup	32	32	1,130	35
	13	Cachar	1	1	200	200
	14	Nowgong	4	4	120	30
		Total	...	...	22,834	...
		Grand Total ...	...	...	298,421	

B.

Work for outside Departments.

Serial No.	Name of Department.	Number of plans.	Number of copies.
1	2	3	4
1	General (Secretariat)	23	1,618
2	Municipal (ditto)	1	460
3	Public Works Department	49	13,441
4	Secretariat Press	85	11,509
5	Inspector General of Civil Hospitals ...	1	730
6	Drawing Office, Eastern Circle, Survey of India	4	36
7	No. 12 Party, Survey of India	2	136
8	Census Commissioner	1	100
9	Inspector-General of Police	4	2,060
10	No. 9 Party, Survey of India	1	30
11	Messrs. Turner, Morrison and Company ...	1	10
12	Director of Public Instruction	126	34,534
13	Sanitary Engineer	45	627
14	Director of Agriculture	1	300
15	Forest Department	1	220
16	Telegraph Department	1	25
	Total	...	65,836

C.

Departmental work for the Director of Surveys and of Land Records.

Serial No.	Name of Department.	Number of plans.	Number of copies.
1	2	3	4
1	Land Records	4	585
2	Surveys	65	34,654
	Total		35,239

The figures in these three tables have been given in considerable detail because they show interesting results.

In Statement A, items 4 and 8 (10,424 copies) are properly debitable to Provincial, whilst all other items in Eastern Bengal belong to Major Settlements which are financed from Imperial Funds.

Of the reproductions referred to in Statement B, all may be looked upon as Provincial items, whilst those of Statement B embraced about 30,000 Imperial and 5239 Provincial reproductions. The approximate result is that Provincial work is to Imperial work as 1 to ·3·85, whilst the financial distribution is Provincial to Imperial as 1 to 3, and the Government of India, on the aggregate output, is paying less than it equitably should pay. This point is the more accentuated when it is remembered that the bulk of the Provincial reproduction work is not the production of copies of cadastral maps, but of maps and plans of other kinds; it was originally thought that 1 to 3 would represent the proportion between Provincial and Imperial cadastral reproduction work.

Putting aside the financial proportions of the case it is clear that, by taking up the extra departmental work carried out by this section, the actual cost to the Government of India is reduced, because a short outturn of cadastral reproduction raises rates all round. In this year the total cadastral reproduction was 328,421 copies against a standing estimate of 400,000 copies of maps. If the Settlement Department can work up to a programme of 400,000 copies, the financial basis upon which this office rests will be equitable, but not otherwise. It is partly to make this point clear that the detailed argument set forth above has been given here.

172. The recoveries for extra-departmental work, excluding the cost of paper, have been Rs. 8,348-4-8.

The cost of paper was omitted, because it fell under a provincialized item of expenditure. It is for consideration, however, whether we should not recover its cost, and I am about to approach the Board upon this subject. If it could be included, it would increase my recovery total by Rs. 553-8-0.

Thana Trijunction Mark Maps.

173. No trijunction maps have been made during the year, and no thana maps have been published.

174. As regards the former, the maps are made from thana maps, and until these are issued, no progress can be made. The delay in the thana mapping scheme is due to orders regarding the making and issue of such maps being awaited. The Board is at present considering the case, which is rather complicated.

175. In anticipation of orders I have proceeded with the pentagraph reductions of the cadastral maps of certain thanas of Bakarganj, and the final map of thana Pangsa of district Faridpur is in hand.

176. It is proposed to abolish the term "Thana Map" and to substitute for it "Jurisdiction Map." In Eastern Bengal the unit will be the thana and in Assam the Sub-Deputy Collector's circle. The name of the Section is also proposed to be altered to "Provincial Mapping Section."

177. As soon as final orders regarding the work of this section are issued, a considerable impetus will take place.

178. To keep expenditure down a part of the staff has been utilized in the Map Issue and Copying Section (*vide* paragraph 187 of this report).

Badar Section.

179. This section is to be abolished from the beginning of the next financial year.

180. During the year under report the *badars* of 29 villages of Chittagong and of 21 villages of Bakarganj have been dealt with and, in addition, numerous enquiries regarding the positions of and correct areas of plots were disposed of.

181. In all cases involving corrections we have corrected the original maps. This procedure is right as regards Bakarganj, since, in that district, only maps not finally published were corrected. In Chittagong the case is

different, for there, on the Collector's orders, we have corrected originals long after they were finally published. The Director of Land Records has decided to stop work in Chittagong for the present, and that in Bakarganj is now practically completed.

If it is decided to continue work in Chittagong, I have proposed that all corrections be made on copies of the original maps and that these corrected copies be racked with their originals. It will not be necessary to keep up a separate section for such work, as I can arrange to dispose of it elsewhere in the Drawing Office.

These new proposals are the result of a small conference held in the Drawing Office, at which the Hon'ble Mr. LeMesurier, C.S.I., C.I.E., presided.

Map Record Section.

182. Very great progress has been made in this section during the year and we have now received practically all the old map records of the Province. These have been classified, roughly, and it only remains to make the final classification.

183. The number of cadastral maps now racked in the record-room is 22,631, of these 3,191 were received this year.

I hope to be able to give details of the other maps now assembled in this section in my next report.

Map Issue and Copying Section.

184. The formation of this section was sanctioned in Government Order No. 1872R., dated the 12th August 1910, and it started regular work at the beginning of December 1910. The delay was partly caused by difficulty in obtaining a staff at the rates of pay sanctioned by Government. When I originally drafted the scheme for this section, some two years ago, I was under the impression that temporary hands would be given local allowances in Shillong and I based rates of pay on this assumption. My assumption was a wrong one. I should have recorded this fact for Captain Cotter's information but neglected to do so; the result was that the rates suggested by Captain Cotter, in my absence on leave, were found to be inadequate. I have recently put forward proposals for a readjustment of rates; until they are readjusted, the section will not be a success either financially or otherwise.

185. The work done by this section is the making of copies of old maps by hand and the issuing of them to the public or to Government officials. The maps copied are, in most cases, old revenuesurvey maps.

The Reproduction Office has its own Map Issue Section, and the issues referred to above might be made from it but for financial reasons which, I hope, will be overcome shortly. Unless, however, we start an Issue Office for the Surveyor General's maps, it is probable that no saving would result from an amalgamation. At present there is no Issue Office for Survey of India publications in this Province.

186. The ten months' work reported upon here should not be taken as any index to the future of this section. So far it has not been a success, but this is only due to too low rates of pay for the staff, and inadequate rates of recoveries for copies of maps. Both these cases have been reported to the Board of Revenue and full proposals made to meet them.

Such financial loss as has occurred so far has been amply made up for by the use of the section to Government itself, and I need not make any apology for the failure for that reason; records are missing in district record-rooms that ought to be there; it is only through this section that they can be replaced and, until they are all replaced, Government will score by the maintenance of a section which has been partly supported by the public.

187. Mr. A. B. Smart has kept the section alive by constant transfers from other portions of his office, but these have been so frequent that all chance of keeping a separate set of accounts has been frustrated; the figures below are

somewhat misleading for this reason. The recoveries on 425 plans issued to the public were Rs. 1,727-7; the nominal cost was Rs. 814-5-10, but the actual cost is computed to be approximately Rs. 3,050.

At the same time savings were effected by the transfers just referred to, because congestion of work in this section often compensated for a lack of work in another. Probably the true cost to Government was about Rs. 2,500, and we may, therefore, say that Government lost less than Rs. 800 on the first year's working; but these figures include equipping a new section, and I do not think that they are really unsatisfactory.

If my proposals are accepted, the next year's working will show a very different result, because the section is now becoming known to the public and its patronage will grow to the benefit of itself and of Government.

CHAPTER III.

PART I.

Tours of the Director of Surveys.

188. I have been on tour for about 7½ months of the year under report, and have reported upon the survey work of each Major Settlement.

All sections of my Department have been visited frequently by me.

PART II.

Services of Officers.

189. Captain V. R. Cotter, I.A., went on leave, in bad health, at the end of the field season, and he reverts to the Survey of India, at his own request, from 1st November 1911. Excepting whilst employed on the Makware Expedition as Survey Officer, Captain Cotter's health precluded him from heavy work.

190. In Mr. T. Shaw, my Personal Assistant, I have an officer whose experience of surveys in this Province dates back to 1869. Mr. Shaw likes work and, in the six weeks that have elasped since he joined me, his experience and help have been invaluable to me.

191. Mr. A. B. Smart, who is in charge of the Drawing Office, has done exceptionally good work under trying conditions. He is an officer of very great ability and experience.

192. Messrs. Graham Lee, O'Donel and Judd have been in charge of the three Eastern Bengal Traverse Detachments during the past year. All have had much more than their fair share of work and have done it cheerfully and well.

193. Mr. Corridon has worked well in the Assam Traverse Section. He requires more experience.

194. All the Assistants have worked willingly and well, with the exception of an officer who was attached to No. III Traverse Detachment. He has since resigned his appointment.

195. In a report of this nature it is not possible to give every officer individual credit for his work. During the year I have been compelled to call for strenuous efforts from every branch of my staff, both Europeans and Indian, and it is almost altogether due to their efforts that the ordinary programme of the Department has been kept up to date, whilst at the same time, considerable extensions have taken place. Every demand made has been met loyally and uncomplainingly, and there are very few in the whole staff to whom my acknowledgments are not due on this account.

196. The services of the Indian establishment will be brought to the notice of the Board in a separate communication.

I have the honour to be,

Sir,

Your most obedient Servant,

F. C. HIRST, *Captain, I.A,*

Director of Surveys, Eastern Bengal and Assam.

APPENDIX I.

PART A.

TRAVERSE.

Summary of outturn of work of survey units in Eastern Bengal and Assam in 1910-1911.

District.	Number of villages.	Linear miles of chaining.	Number of stations at which theodolite was set up.	Number of azimuth.	Number of sub-traverses.
1	2	3	4	5	6
Mymensingh	2,211	4,133	28,491	171	812
Dacca ... Relaying	902	1,706	9,530	*Nil*	467
Dacca ... Traversing	504	1,136	6,456	47	277
Rajshahi	1,610	4,275	24,427	158	2,088
Lakhimpur	159*	474	6,064	20	22

* Number of tea grants including 6 villages.

NOTE.—Petty surveys are omitted from this table.

F. C. HIRST, *Captain, I.A.*,
Director of Surveys, Eastern Bengal and Assam.

APPENDIX I.

PART B.

Statement of outturn and cost rates.

District and Estate.	Description of work.	Estimated area to be dealt with, in square miles.	Year of inception of operation.	Area surveyed, in square miles.		Cost rate per square mile.		Balance area remaining for survey.	Estimated cost of completing area in column 9.	Estimated final cost rates per square mile.	Remarks.
				During the year under report.	Total including previous year.	During the year under report.	From beginning to end of year under report.				
1	2	3	4	5	6	7	8	9	10	11	12
						Rs.	Rs.				
Mymensingh ...	Traverse ...	6,332	1905	875	3,480	82	61	2,852	1,81,500	62	Very small and instricate villages.
Dacca	Traverse and relaying.	2,782*	1905†	573	1,115	80	‡	1,667	‡	‡	Includes equipping a new Detachment.
Rajshahi ...	Traverse ...	2,617	1910-11	809‡	809	85	85	1,808	Survey stopped for the present.	Final estimate cannot be given, as survey stopped.	High rate caused by postponement and small villages.
Dibrugarh ...	Traverse ...	379	1907	64	318	...	...	61	.....	.....	Work scattered.
	Total ...	12,110	...	2,321	5,721	...	...	6,388			

* Includes certain diara areas of which figures are not yet available, and areas for relaying work.

† First traverse commenced.

‡ Figures under readjustment.

NOTE.—All cost rates include Diara comparative map work, etc., not properly debitable to Survey and Settlement (Imperial) 3—Land Revenue.

F. C. HIRST, *Captain, I.A.,*
Director of Surveys, Eastern Bengal and Assam.

APPENDIX II.

Statement of sums expended for the year ending 30th September 1911.

Districts, etc.	Description of work.	Expenditure incurred during the year under report.				Total expenditure from inception to end of the year under report.			
		Actual (direct charges).	Share of Director of Survey, pay and his office.	Four per cent. charges for instruments.	Total.	Actual (direct charges).	Share of Director of Survey's pay and his office.	Four per cent. charges for instruments.	Total.
1	2	3	4	5	6	7	8	9	10
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Jalpaiguri	Traverse ...	2,296	479	...	2,775	1,94,637	28,946	5,557	2,29,140
Rajshahi	Ditto ...	57,153	11,918	...	69,071	57,153	11,918	...	69,071
Mymensingh	Ditto ...	59,594	12,183	...	71,777	1,77,491	32,674	2,856	2,13,021
Dacca	Ditto ...	37,937	7,912	...	45,849	37,937	7,912	...	45,849*
Bakarganj, Galachipa, comparative maps.	Ditto ...	701	146	...	847	701	146	...	847
Bakarganj and Faridpur, preparation of 4" comparative maps.	Ditto ...	106	22	...	128	1,638	46	...	1,684
Mymensingh, copying of traverse tables.	Ditto ...	494	103	...	597	494	103	...	597
Bakarganj, copying of traverse tables.	Ditto ...	1,025	214	...	1,239	1,025	214	...	1,239
Faridpur, copying of traverse tables.	Ditto ...	339	71	...	410	339	71	...	410
Faridpur, Pabna, Dacca and Tippera diaras.	Ditto ...	2,490	519	...	3,009	34,900	5,439	797	41,136
Tippera, refixing of pillars ...	Ditto ...	398	83	...	481	398	83	...	481
Goalpara chars, relaying ...	Ditto ...	365	17	...	382	365	17	...	382
Malda, relaying from Bariaband pillars.	Ditto ...	161	8	...	169	161	8	...	169
Goalpara, checking of Mr. Bose's work.	Ditto ...	282	13	..	295	282	13	...	295
Cachar scattered villages ...	Ditto ...	4,305	165	...	4,470	4,305	165	...	4,470
Sylhet estates' survey ...	Ditto ...	3,790	181	...	3,971	3,790	181	...	3,971
Sylhet and Khasi Hills, boundary relaying.	Ditto ...	400	50	...	450	400	50	...	450
Malda, Haripur dispute ...	Ditto ...	1,010	48	...	1,058	1,010	48	...	1,058
Shillong Town survey ...	Ditto	1,766	84	...	1,850	10,162	300	...	10,462
Gauhati „ „ ...	Ditto ...	1,681	80	...	1,761	1,681	80	...	1,761
Dacca „ „ ...	Ditto ...	3,225	191	...	3,416	8,092	269	...	8,360
Lakhimpur	Ditto ...	23,313	1,117	...	24,430	60,745	3,584	...	64,329
Dibrugarh Town survey ...	Ditto ...	891	43	...	934	891	43	...	934
Goalpara, relaying boundary of Taria and its villages.	Ditto ...	3,247	1,082	...	4,329	7,641	2,547	...	10,188
Chittagong Municipality ...	Ditto ...	4,245	1,415	...	5,660	4,245	1,415	...	5,660
Goalpara, relaying of Sidli and Khuntaghat.	Ditto ...	2,731	683	...	3,414	2,731	683	...	3,414
Goalpara, relaying of Guma and Ghurla.	Ditto ...	935	234	...	1,169	935	234	...	1,169
Rangpur-Cooch Behar boundary	Ditto ...	361	90	...	451	361	90	...	451
Eastern Bengal and Assam Drawing Office.	Record Section ...	6,651	1,116	...	7,767	25,757	5,216	...	30,973
	Badar Section ...	1,859	312	...	2,171	7,825	1,257	27	9,109
	Reproduction of village maps.	55,873	9,384	...	65,257	1,66,464	28,520	...	1,94,984
	Thana and trijunction mark maps, etc.	5,181	870	...	6,051	14,588	2,787	...	17,375
	Maps Issue and Copying Section.	1,055	177	...	1,232	1,055	177	...	1,232
	Total ...	2,85,860	51,010	...	3,36,870	8,30,199	1,35,235	9,237	9,74,671

* Figures since formation of Special Dacca Detachment.

F. C. HIRST, CAPTAIN, *I.A.*,
Director of Surveys, Eastern Bengal and Assam.

SHILLONG :

The 15th November 1911.

No. 122-249.

FROM

J. C. JACK, ESQ., I.C.S.,
OFFICIATING DIRECTOR, DEPARTMENT OF LAND RECORDS,
EASTERN BENGAL AND ASSAM,

To

THE SECRETARY TO THE BOARD OF REVENUE,
EASTERN BENGAL AND ASSAM.

Dated Dacca, the 2nd December 1911.

SIR,

I have the honour to submit a report on the work of the Department of Land Records during the year beginning on 1st October 1910 and ending on 30th September 1911. The Hon'ble Mr. N. D. Beatson Bell, C.I.E., was Director of the Department until the 9th April 1911, when he was appointed to officiate as Chief Secretary, and from that date until the close of the year I officiated in his place as Director of Land Records. Mr. Beatson Bell was first appointed Director of Land Records in Bengal in March 1905, and with one short break for special duty and the usual leave interruptions he has held charge of the office in this Province until April 1911. During the cold weather Mr. Beatson Bell toured as continuously as attendance at the Council permitted and, after joining, I toured until the end of May and again, as usual, in the rains. During the year, Mr. Beatson Bell was 83 days on tour and I was 131 days on tour, a total of 214 days.

2. In Appendix A will be found the usual statement showing to what extent districts have been supplied with a record-of-rights. At the close of the year the maps and records were either complete or under preparation in 41·4 per cent. of the area in Eastern Bengal and in 26 per cent. of the area in Assam. Apart from forest and waste, the outstanding area is 27,152 square miles in Assam and 13,304 square miles in Eastern Bengal. In the next report an attempt will be made to analyse these figures in more detail.

3. This report has been divided, as in previous years, into two parts, the first of which deals with the year's work in each district and the second with matter of general application.

PART I.

4. Comprehensive operations, which are supervised by special officers and financed from Imperial sources, were going on in the following districts—

Bakarganj,	Mymensingh,
Faridpur,	Dacca,
Jalpaiguri,	Rajshahi.

In the case of Faridpur, Mymensingh and Dacca, whose boundaries are often the great rivers of the Province, a strip of land five miles wide on the far bank of those rivers has also been included in the operations.

5. In Bakarganj the operations have at last been closed and only the report upon them remains to be written. During the year the small judicial work remaining was disposed of and the few estates, the revenue of which was under resettlement and which had not previously been completed, were finished.

Racks were provided for the record-of-rights which was, during the year made over to the custody of the Collector. The new record-room has not as yet been built, but the record is at present housed in a convenient and excellent building.

The diara proceedings under Act IX of 1847, although based upon the record-of-rights, are financed from Provincial revenues and are therefore dealt with in paragraph 12.

6. In Faridpur, where Mr. B. C. Prance, I.C.S., took charge as Settlement Officer from me on 10th April 1911, the work of the year lay chiefly in disposing of the vast mass of objections under Section 103A which had accumulated, and in preparing the record for final publication. Of the objections which continued to pour in throughout the year, only 2,538 out of 26,910 were pending at the close, and most of these are of some special difficulty, requiring the decision of the Settlement Officer personally. In the scrutiny of the record great progress was made and a vast number of petty errors and inconsistencies eliminated. Owing to the enormous number of tenancies in Faridpur which hold land in more than one village, it was inevitable that discrepancies in details as recorded in the different villages should frequently occur.

The printing of the record for final publication was greatly delayed by the late arrival of the presses from England, of which half were still not received in April and the last only came in July. As a result, the latter part of the year was chiefly occupied in training compositors, and it waso nly in August that the work can be said to have begun in earnest. The experience of that month, however, was sufficient to show that no unforeseen difficulties would impede the work and that estimates would not be exceeded. The *khatians* of 97,371 tenancies were printed during the year out of a total estimated number of 16 lakhs.

In Faridpur there is also a heavy programme in revision of land revenue, of which the spade work was entirely completed. Allowing the usual periods for appeal and confirmation of proceedings, it may be anticipated that this somewhat onerous work will be completed in March 1912.

Three special duties, which are at present financed from Imperial sources but will finally be paid for by the Province or by the parties benefitted, have been entrusted to the Settlement Officer, *viz.* diara assessment under Act IX of 1847, cess revaluation under Act IX of 1880, and partition under Act V of 1897.

The progress in diara was excellent. Rules were framed only late in the year, but 109 out of 158 estates were assessed, and in 77 cases the sanction of the Board of Revenue has already been obtained. Most of the remaining cases are well advanced. Mr. Prance carried out this work with great care and skill, and, despite the unpopularity incidental to operations which carry with them the demand for an increase of revenue, he secured in quite a large proportion of cases the assent of the proprietors of the estates affected.

In respect of cess revaluation, the work in Faridpur was full of difficulty. Rules were framed early in the year and the legal notices completely served during the year. Considerable progress was made with the intricate calculations necessary in the case of tenure-holders; but it will be impossible for some time for the work done to be displayed in the complete revaluation of estates, partly because the lands of so many estates are scattered over wide areas, partly because many estates have lands in other districts and the obtaining of returns from the proprietors and their tenants is a work of much correspondence and long delay; but chiefly because all the larger estates are affected by the diara operations, and until the Board's sanction to the Settlement Officer's proposals is received, cess revaluation cannot be completed. It is anticipated, however, that the revaluation of the district will be almost completed in the coming settlement year.

In partition, there were only 20 cases on the Collector's file, and in many the Collector had not himself as yet passed orders declaring the estate to be under partition. The lands affected were entirely in the area in which objections under Section 103A were under disposal during the year. It was found

impossible, therefore, to make any progress and the work must be done in the coming year. Careful and exhaustive rules of procedure were drawn up by the Settlement Officer and received the sanction of the Board of Revenue.

The five miles strip of river bank in Pabna and Tippera, of which a record-of-rights is being prepared by the Settlement Officer of Faridpur, made no progress during the year, except that objections under Section 103A were disposed of. In these areas there is some settlement of land revenue and some diara work which are part of the present season's programme. The preparation and publication of the final record will be taken up in these areas after Faridpur is completed.

Towards the end of the year proposals were submitted to Government for the apportionment and recovery from landlords and tenants of their share of the operations. The proposals have subsequently been accepted. The amount debitable to landlords and tenants worked out to Rs. 675 per square mile.

In the reform of settlement procedure, Faridpur is the pioneer district in the Province and its Settlement Officer has had to work out first the proposals and then the rules for such experiments as printing the record-of-rights and diara, cess revaluation and partition based upon the record. These duties have added very considerably to the ordinary labours of a Settlement Officer.

It is hoped that, apart from printing the record, which has been greatly delayed by the late arrival of the presses, the work on the Faridpur record-of-rights will be finished in September 1912 or at latest in March 1913. It is impossible that final publication will be complete before March 1915. The life of the settlement will thus have been the usual ten years, as ground was broken in the season of 1904-05 with traverse survey and in the season of 1906-07 with cadastral survey, etc.

Other matters of interest in connection with the operations in Faridpur were the remodelling of thana boundaries in the south-west of the district, in which the proposals of the Settlement Officer were approved by Government. Some modifications in the common boundary of this district and Bakarganj have also been proposed by the Settlement Officer, but orders have not yet been passed upon his proposals. The Press was visited by the Hon'ble Mr. Justice Caspersz in January, who considered that the printed *khatian* was, so far as the Courts were concerned, a great step in advance.

7. In Jalpaiguri Mr. Milligan was Settlement Officer throughout the year. The programme was considerably less than the standard programme, as it consisted of 522 square miles of field work and 360 square miles of attestation. The attestation was accomplished without difficulty, and all the objections under Section 103A, to the number of 6,564, were decided; but *bujharat* in D Block (the 522 square miles), although in the end finished, was only finished in August. The Settlement Officer explains that there was a dearth of amins which delayed the cadastral survey and that the Kanungos were too easygoing in the early stages of the work and were unequal in the later stages to the more intricate system of landholding in the permanently-settled area after two years of temporarily-settled simplicity. The plots also were very small indeed.

These reasons sufficiently account for the poor progress; but the system of landholding was less intricate than that in Mymensingh, where the Kanungos were fully equal to their task and incomparably less intricate than in Dacca; yet the cost rate of the field operations in Jalpaiguri was much higher than in Mymensingh and even equalled the cost rate in Dacca.

It became abundantly clear before the end of the year that the Kanungos in Jalpaiguri were of a calibre greatly inferior to that of the Kanungos in Dacca or Mymensingh. The material, there can be no doubt, was inferior from the beginning. It was found necessary to put twelve of them through a special survey training in Dacca, although some had been 3 and 4 years already in employment and in that training ten acquitted themselves so indifferently as to make their retention in employment merely a charity, for which there was no financial provision. The others have, on the postponement of Rajshahi, been divided between Mymensingh and Dacca settlements, where

great efforts will be made to improve the standard of their work. If these efforts fail, I am afraid there is no alternative but to discharge them, as under modern settlement conditions no subsequent care can repair the damage occasioned by inferior Kanungos to a record-of-rights.

The calculations necessary for the reassessment of revenue in Mainaguri tashil were completed. Proposals for re-assessment of several of the "backward" tahsils were submitted to the Board and draft rules for the cess revaluation of the district on the basis of the settlement record were prepared and submitted. No progress was made in the preparation of the final record and no decision has yet been reached on the comparative advantage of printing or making a copy by hand.

The demarcation of the district boundaries is still unsettled and little progress has been made in the preparation of maps for tea estates. Complete copies of the maps and *khatians* of the Cooch Behar estates in Boda and Patgram were prepared at the expense of the Cooch Behar authorities, who represented the value of these to their staff at the time of attestation.

It is a matter of satisfaction that the orders of the Board (paragraph 8 of last year's report) on the subject of *adhiars* (cultivators whose rent or wages is half the crop) carried general agreement. Only thirty objections were filed and the tests applied appear to have been accepted as reasonable by all classes of the agricultural community.

The demarcation of *jote* boundaries in the method ordered by the Board of Revenue (paragraph 8 of last year's report) will be taken up during the settlement of fair rents under Section 104, Bengal Tenancy Act, in the coming year.

The *jotedars* in the temporarily-settled area have enhanced the rent of their under-tenants beyond the maximum allowed in their leases. During the year the Board of Revenue (No. 444 S. & S.—G., dated the 17th November 1910, paragraph 13) ordered the institution of some test cases in the Civil Courts for the ejectment of such *jotedars*.

Traverse survey was started in Jalpaiguri in 1906-07. Final publication of the record-of-rights should begin in 1912 and be complete in 1914. The operations will thus have extended over eight years in this district.

8. In Mymensingh Mr. Sachse was Settlement Officer throughout the year and a full programme was undertaken. It was practically completed, the areas pending being insignificant and remaining unfinished only for special reasons.

In *bujharat* much time was lost owing to the attitude of the tenants of the Alapsingh pargana, who repeatedly boycotted the camps. They admitted during *khanapuri* that the length of the *nal*, by which measurement their rents had been determined by their landlords, was 25½ inches (a measure recognized in Mr. Reynold's statistics of the Dacca Division and adopted in several old decisions both of Revenue and Civil Courts); but when they found that their areas as recorded in the *khatians* were generally higher than those entered in their landlords' papers, they claimed a *nal* of 31 or 36 inches and refused to attend *bujharat* unless the area was entered by this scale of measurement in the *khatians*. After much trouble and delay, *bujharat* was finally completed.

It was found during field work that there have been illegal enhancements of rent in almost all the Alapsingh villages, while the system of *anugraha komi* is universal. *Anugraha komi* is the name by which the special inducement held out to leading tenants for the betrayal of their fellow-villagers is known. The landlord wishes to obtain an enhancement in the rate of the rent paid by all his tenants in one of his villages. Led by the most prosperous, they refuse, and the landlord sets to work to gain his ends slowly by bargaining with the leaders in turn as to what reduction will induce each ostensibly to accept the full enhancement. When the leaders are won over, the rank and file soon give in and *kabuliyats* for the payment of the new rent are signed by the whole village. From the leaders the landlord, however, does not collect the *kabuliyat* rent in full, but only after deduction of the stipulated "consideration" or *anugraha komi* (deduction by favour).

In attestation no new problems arose. Amongst the 8,000 objections under Section 103A, which were decided, were the cases in Patiladaha pargana, which, although not taken up by the Hon'ble Mr. Beatson Bell as contemplated by him in the last report, were decided on lines approved by him and the Legal Remembrancer. At one time it seemed likely that the decision of these cases must inflict a grievous blow upon the status of one or other class of tenant, as the Tenancy Act does not confer the security and privileges of raiyats upon two grades of tenants. In August, however, every tenant who had a large number of under-tenants admitted that they enjoyed the same rights as he in respect of inheritance, fixity of tenure and enhanceability of rent, thus enabling the Settlement Officer to maintain his status as raiyat without endangering their prosperity by recording them as under-raiyats *sans phrase*. The admissions will now, under Section 183, Bengal Tenancy Act afford the under-raiyats a full protection, and these troublesome cases have been disposed of satisfactorily to all parties.

The records of two thanas have passed through a final scrutiny and 18,342 *khatians* have been printed. The scrutiny is somewhat behind the programme, but there will be no difficulty in making up lost ground. The presses only came in May and the remainder of the year was spent in training compositors.

In the current year it is expected to print and to publish finally the records of 400 to 600 square miles. Proposals for the recovery and apportionment of the share of the cost of the operations to be borne by the landlords and tenants were submitted to Government before the end of the year and have subsequently been accepted. They are based upon the recovery of Rs. 480 per square mile from the landlords and tenants.

Of the special duties entrusted to Settlement Officers, cess revaluation has no place in the Mymensingh programme owing to a too recent revaluation by the district staff, while diara operations have not as yet begun. The applications for partition are so numerous and extensive as to be somewhat embarrassing, and unless appeals to the higher revenue authorities are quickly disposed of, they threaten seriously to delay final publication. In Sherpur pargana 39 landlords and 475 villages are affected, in Alapsingh 21 landlords and 175 villages. The ground has been broken and it is hoped that the partition of these estates will be carried to completion in the current year.

The question of the boundary between Mymensingh and the Garo Hills (referred to in paragraph 7 of last year's report) is still undecided; but the Settlement Officer has discussed the case with the Hon'ble Member and obtained orders in accordance with which the report promised will be prepared.

Altogether the year in Mymensingh has been a record of sufficient work well done.

9. In Dacca Mr. Ascoli was Settlement Officer until May 2nd, 1911, when he went on leave and Mr. Thompson held charge for the rest of the year.

This was the first season's work in Dacca, but it comprised the attestation of the river bank opposite Faridpur, Pabna and Tippera, of which records had been prepared in connection with the Faridpur Settlement in the previous year. The programme for field work was 543 square miles and for attestation 210 square miles. The programme was successfully accomplished and some 800 objections under Section 103A decided in addition.

In field work, plots were found to be very small and tenancies very numerous. The area was under water until December and the traverse survey done in 1905 was defective. As a result, *bujharat* dragged on until late in the season and was in the last months pushed through at a rate at which careful work can hardly be expected. Apart from this, the work reached a high standard and the survey was excellent. At the close of *bujharat*, a preliminary scrutiny was made of the record in order to reduce the labour and expenditure usual in the final scrutiny. The same procedure was also observed at attestation, and it is hoped that thereby much of the cost which the final scrutiny in Faridpur has involved will be saved. During *bujharat* and attestation, *thak* maps were most carefully compared with present record to the great assistance of the public and with considerable advantage in the accuracy of the present record. In attestation, it was found that the maps required

considerable alteration, chiefly owing to changes in the distribution of *char* lands amongst the cultivators.

Apart from the excessive smallness of plots and tenancies, the only point of importance, which arose in Dacca, was the frequency of *barga* tenancies, *i.e.*, tenancies held at a produce rent, which usually amounts to half the gross produce. It is clear that the *barga* system has increased, is increasing and ought to be diminished, and a separate reference will be made in the current season to the Board of Revenue on the subject.

During the recess the old Bakarganj plan of making "tenure trees" in advance of field work was reverted to. There is no doubt that the exceptional number of petty estates with absentee proprietors, which are to be found in Dacca, makes this not only prudent, but a considerable economy. In the present season as many as 4,000 separate estates were dealt with. The Collectorate Land Registers in Dacca and the estate papers in the Collectorate record-room were systematically overhauled. This, which is in any case a useful work, became essential owing to the inaccuracy and incompleteness of the Collectorate Registers. Altogether much "janch" of the record and much of the work, which has usually been done after draft publication, was done in advance and it was done cheaply. It is expected that little will need to be spent on the final scrutiny before the preparation of the final record.

In Dacca the Settlement Officer will start diara operations in the coming season, will make a cess revaluation of the whole district and will have many partitions to effect. Already 47 estates have put in applications.

Field work next season will be in Bikrampur, probably the most famous region in the Province. It will probably be tedious and exhausting, and if the Settlement Officer gets through his programme successfully, he will deserve congratulation.

10. In Rajshahi it had been intended to bring over the Jalpaiguri staff and start a full programme of field work in the current season. Under orders of the Local Government, work was postponed for a year, partly owing to financial stringency due to famine up-country and partly owing to the impossibility of finding a suitable Settlement Officer; but material and instruments had been collected in advance, the Collectorate and Estate bundles were overhauled and a large number of *patwaris* trained under the supervision of Mr. Sankey.

11. Minor operations, generally known as "Collectorate Settlements," which are supervised by the district officers and financed from provincial sources, were going on in the following districts in Eastern Bengal:—

Bakarganj,	Malda,
Noakhali,	Rajshahi,
Tippera,	Pabna,
Dinajpur,	Bogra.

These operations are difficult to control, and their finances generally seem to be in considerable disorder. Fortunately the more important operations in Bakarganj and Noakhali are in charge of experienced and capable Deputy Collectors, while in the other districts the work is nearing completion and new work is not being taken up to any considerable extent.

12. In Bakarganj diara operations on the basis of the record-of-rights were sanctioned by the Local Government (Notification No. 1969T.R, dated the 2nd October 1900), and an application was made for the sanction of the Government of India (letter No. 613-281-2, dated the 14th July 1911). The diara officer is Babu Hara Kishor Biswas, a Deputy Collector, whose work is always most careful and thorough. It has been arranged that his proceedings shall be submitted to the Collector and forwarded to the Board for orders through the Director of Land Records. Much of his time in the present year has been spent in the preliminary enquiries, which are essential in this contentious work. He has, however, completed the assessment of three diara estates with a proposed revenue of Rs. 2,135. Two have been sanctioned by the Board of Revenue. He has completed his enquiries in respect of four more, with a probable revenue

of Rs. 1,400. The work for the current season is arduous, but it is anticipated that he will complete the district, provided that the Director of Surveys is able to supply in time comparative maps of the very difficult alluvial areas in the Galachipa archipelago and in the Shahbazpur river.

13. In Noakhali there was as usual a large and scattered programme. Fourteen temporarily-settled estates (82½ square miles) and two permanently-settled estates (73 square miles) were pending from previous years and operations were started in nine temporarily-settled estates (23½ square miles) during the year. Altogether 179 square miles were under survey and settlement, for which a special Sub-Deputy Collector was entertained (Babu Uma Charan Barua), who has since been transferred to the Dacca settlement for a more thorough training in settlement work. Saiyid Altaf Ali, a Deputy Collector on the general staff, with experience in Faridpur settlement, was in reality in charge of the operations.

The programme for the season was too heavy for the staff employed; but a respectable outturn was obtained:—

	Programme. Sq. miles.	Finished. Sq. miles.	Pending. Sq. miles.
Traverse survey	... 23	23	*Nil.*
Cadastral „ ...	... 23	23	*Nil.*
Khanapuri ...	... 23	23	*Nil.*
Bujharat ...	... 19	7	12.
Attestation ...	... 5	5	*Nil.*

The chief failure is in *bujharat*, where with one Kanungo it was impossible to finish so large an area as 19 square miles. In traverse survey 12 *azimuths* and 546 angles were observed. The work is reported to be accurate; but the supervision is of course not professional. One estate (Char Jubilee) of 19 square miles, which was in the programme for the year, was postponed for the introduction of the *bargadagi* system of survey.

In resettlement of land revenue, only 430 out of 2,826 tenant's rents were determined, while the revenue of only one out of 12 estates was fixed. The poor results in determination of tenant's rents were due to the contumacy of tenants of the *bhadralok* class, who are unfortunately only too common in the Government estates of Noakhali. One petty estate was finally published and 21 suits under Section 106, Bengal Tenancy Act, decided. The special Judge decided 306 appeals under Section 105 and 35 under Section 106, and only two under the latter section are pending. Seven hundred and ninety-one cases under Section 105 are pending in the file of the Assistant Settlement Officer. The trial has been finished and the judgment would have been written but for his serious illness. Rupees 20,800 were set down for recovery during the year, of which Rs. 18,200 was collected and only Rs. 2,600 is pending at the close of the year. Several final reports are pending in this district.

In expenditure, some economy was effected and the annual charges were only Rs. 13,500, against an average of Rs. 17,000 over the previous five years.

From many indications it is clear that the records-of-rights prepared previously in this district have been of poor quality and full of inaccuracies. Saiyid Altaf Ali has introduced many reforms and a great effort will be made in the coming season to bring the records prepared up to the level of those in large settlement operations.

14. In Tippera the area under survey and settlement was very petty and the programme was complete, except for a little attestation and the determination of fair rents in the case of some tenants. The programme only included one square mile of field work and seven of attestation.

15. In Dinajpur, Balubhara estate was completed in the year under report, but the final report is still pending. Jhargaon estate has been finally published. The cost rates in these settlements has been excessive and an enquiry is proceeding in connection with them.

16. In Malda estate, Haripur, the field work cannot be begun until an important boundary dispute with neighbouring zemindars has been settled. Some progress has been made with the case. In estate Doani Chandipur the Director of Surveys has still failed to identify the lands of the estate and no field work can be begun until they are identified.

17. In Rajshahi seven estates with an area of 14 square miles are approaching completion. In Tappe Kusumbi Group, a permanently-settled estate, final publication has been made and 96 cases under Section 106 have been filed. Nineteen of these have been transferred to the file of the Sub-Judge by the Honourable High Court and the remainder cannot be decided until the Civil Courts have pronounced judgment. The other six estates are under resettlement of land revenue. In five, fair rents have been settled in the year under report and they should already have been finally published. In the other, Char Nirmal, the estate is the subject of a civil suit and proceedings are stayed, pending the result of a reference to the Legal Remembrancer.

18. In Pabna nine estates are under survey and settlement and all are a legacy from previous years. Five of these were only pending for recovery of costs and final report. Two have been disposed of and three are pending. In three estates more, case work after final publication was pending and this has now been completed. In the remaining estate, 225 objections under Section 103A have been decided and the estate has been finally published. Cost rates in this district have been high and the estates have been pending for long periods. Moreover, the form of the records is antiquated, and neither maps nor records have been properly distributed to the tenants. Reforms have been effected in these respects. The present year should see the final disposal and the final reports of all these estates, which will be a relief to everybody concerned.

19. In Bogra, one estate, Ramchandrapur, is under survey and settlement. It was finally published at the beginning of the year and the trial of a heavy file of suits under Sections 105 and 106 undertaken by Maulvi Abdul Aziz. Judgment will be delivered before the end of 1911.

20. In the Assam districts, the only work of any considerable importance lay in Lakhimpur, where the district is under resettlement. Of the total area, 4,207 square miles, the area capable of being surveyed was in 1891,92, 2,69 square miles and now 735 square miles. The balance consists of tea gardens and of forest. The programme for the year consisted of revenue attestation, an experiment referred to in paragraph 18 of last year's report, of 480 villages (Block A) and record attestation of 648 villages (Block B). This programme was completed, and, in addition, the extension and block survey of 47 villages were finished. Regarding revenue attestation, the Settlement Officer remarks:—"This system of revenue attestation was a new departure in Assam, but was much appreciated by the *raiyats*. In the case of individual grievances, the Assistant Settlement Officers verified the land classification on the spot and made such changes as appeared to them reasonable. They also explained the rules of progressive enhancement to the *raiyats* assembled at convenient centres and granted the concession permissible under the rules." Revenue attestation added considerably to the cost of the operations.

The new maps were not all finished and despatched for reproduction. This was due to the work entailed in connection with the introduction of the system of block numbering as described in paragraph 30. Apart from the renumbering in the maps, the reform also involved the rewriting of *dagchittas, jamabandis* and field registers—no inconsiderable addition to the recess work of the staff. But the arrears were chiefly due to the fact, that the change was not introduced as early as it should have been.

The traverse survey of Dibrugarh town was delayed by excessive rainfall and the detailed survey, which was only started in September, was itself delayed by the same cause. As a result, this will form part of the current season's programme.

Group reports embodying the assessments of Block A were submitted during the year, but orders upon them were not passed before its close. Similarly, proposals for the assessment of Block B—the Mouza Notes with proposals for "Central Unit Rates" described in paragraph 18 of last year's report—, were, after consultation between the Director of Land Records and the Commissioner, Assam Valley Districts, submitted for the orders of the Board of Revenue but not in time for orders to be obtained before the end of the year. Both will accordingly be dealt with in the next report.

The resettlement operations in this district are timed to close in June 1912.

Mr. Mackenzie took charge of this settlement in the circumstances mentioned in paragraph 18 of last year's work report. He has carried on the work on the lines laid down by Mr. Milne. The work accomplished during the year is satisfactory.

21. In Cachar 30 Jangalburi time-expired *mahals* were resettled during the year as ordinary *mirasdari* tenures expiring in 1915. The work is up-to-date. The Director of Surveys also arranged the traverse survey of 40 untraversed villages in this district with an area of 27 square miles, and will complete the 44 more still remaining untraversed in the current season. One thousand two hundred and fifty acres of *khas* land were settled in the year under report.

22. In Kamrup, the resurvey of Gauhati town, which became necessary in connection with the resettlement of the land revenue of the town, is reaching completion.

23. In Sylhet the programme for *ilam, nankar* and *charbarat* settlements was $13\frac{1}{2}$ square miles, and it should have been finished during the year. Actually only $6\frac{3}{4}$ square miles were finished and $6\frac{3}{4}$ square miles remained pending.

24. Of the Land Records work in Assam, apart from resettlement, the Director of Land Records made no inspection, but the Land Record's Assistant, Rai Radhakanta Handiqui Bahadur, was on tour for 268 days and examined the records of 528 *mandals* and *patwaris* distributed in 41 circles and 21 Sub-Circles. There are now only six Bengali Circle Officers in Assam and considerable progress has been made in the elimination of non-resident *mandals*. There can be no question, I think, that Land Records work is deteriorating. Many Circle Officers perform their duties perfunctorily and there seems to be a general impression that attention to Land Records work secures no recognition when promotions are made. This unfortunate impression appears to be based upon the fact that, since the introduction of the circle system and the amalgamation with Eastern Bengal, no Circle Officer has actually been promoted. Laxness in the Circle Officer produces poor work and carelessness amongst Supervisor Kanungos and *mandals* and was responsible for the large number of mistakes discovered in area and revenue calculations, in land classification and in posting mutations in the *jamabandi* and *jamabandi* register. Little attention also was given to the conversion of annual fields into periodic, and such conversion was frequently made without check upon the area or classification, with the result that not only will many corrections in the records be required, but the leases issued must be recalled and revised. The Land Records work of the following circles provoked the strongest criticism: Silchar, Sibsagar and Nazira, Roha, Gauhati and Kamalpur and Dhubri. In Dhubri inspection was almost entirely neglected, although the work is easy and mutations light. The circle would probably do better under an Assamese Officer.

There is a strong tendency amongst Circle Officers to convert themselves from field officers into "hakims" and, for the accuracy of Land Records work, it should be strongly combated. It manifested itself chiefly in a reluctance to go on tour, but it took other forms, as in Bojali Circle in Gauhati, where the *mandals* were directed in an unauthorized circular to attend the Circle Office at appointed times in each month to the great detriment of their field work, and as in a Cachar Circle where, under shelter of an order obtained by misrepresentation, "local verification" of mutations which should be done in the village and on the spot was regularly done from a resthousearmchair. In the same Circle, Supervisor Kanungos were required to attend the Circle

Officer at intervals to put up the records of miscellaneous enquiries entrusted to them. It is only in the Surma Valley that the tendency has become at all serious, and here the Board, supported by the Commissioner, have issued stringent orders enjoining real local verification. In the Assam Valley, it remains little more than a tendency with which most of the Deputy Commissioners deal sternly enough in their inspections. But the virtue of the Assam Land Records system lies so entirely in honest field-work and enquiry on the spot, that it would be a pity to let so vicious a tendency develop by ignoring it.

PART II.

25. The year was not rich in matters of general interest and importance connected with the Department.

26. Incomparably the most important were the orders of the Secretary of State [Despatch No. 47 (Financial), dated the 5th May 1911], by virtue of which recorders (*mandals* and *patwaris*) in Assam and the Kanungos, with some portion at least of the clerical staff in Eastern Bengal settlements, were admitted to the benefits of the General Provident Fund. The door has been opened generously wide to "officers in temporary superior service, provided that they have either been in service for three years or are, in the opinion of the head of their office, likely to be employed for at least that period," and to "the class of land revenue officials known as *patwaris*." This will, in Assam, provide some amelioration in the condition of the recorders, which has been described as desirable in paragraphs 153, 29, 18 of previous reports for the years 1906-07, 1907-08 and 1908-09 respectively. In the case of Kanungos in Eastern Bengal settlements, it will be some compensation for the refusal of the Government of India to permit the formation of a *quasi*-permanent and pensionable service of Kanungos (Government of India's letter No. 638-275-2, dated the 20th July 1911, and paragraph 17 of the annual report for the year 1908-09).

27. A measure of decentralization which affected the Department was the grant to the Local Government by the Secretary of State's Despatch No. 70 (Revenue), dated the 14th July 1911, of full powers as to the number and duration of temporary appointments created for settlement work, subject to the rules sanctioned in Secretary of State's Despatch No. 121 (Revenue) of the 31st October 1895.

28. The training camp for junior officers of the Executive Services was attended by 5 Civilians, 7 Deputy Collectors, 4 Sub-Deputy Collectors, 4 Assistant and 1 Deputy Superintendent of Police. It was located at Baiganbari in December and *bujharat* was done by pairs of officers throughout the sadr subdivision in January and February. All the officers spent at least three days in an attestation camp. The camp was, as usual, very successful and the officers keen. The Inspector-General of Police was most satisfied with the results of his experiment in putting junior police officers through the training.

29. By Notification No. 4297A., dated the 9th October 1911, 12 Settlement Kanungos were promoted to the Subordinate Executive Service, and by Notification No. 4298A., dated the 9th October 1911, 7 Sub-Deputy Collectors with settlement experience were promoted to the Provincial Executive Service. The thanks of the Department are due to this generous recognition of its labours.

30. Matters of importance affecting Assam only were the Board of Revenue's Circular No. 7S.—S of August 1911, on the subject of numbering new plots (*dags*) when their insertion in the vandyked cadastral maps is necessary. Where there are large areas of unoccupied land in the map or where survey in extension is considerable, new plots are, under the present rule, difficult to find, as unused numbers are employed without reference to the surrounding numbers. In future, when revision of such maps is necessary, they will be divided into blocks and the plots renumbered. Each block will be left a sufficiency of unemployed numbers for use when new fields are created. Thus the search for a new plot will be localized within a manageable area. This is a small reform, but it has considerable practical importance.

31. The three Survey Schools in Assam continued to work as heretofore. One man obtained a first-class certificate and 94 second-class certificates. It is very doubtful whether any of these will obtain employment as recorders (*mandals* or *patwaris*). Many take the course with the intention of fitting themselves for the service of private landlords in neighbouring districts. It will be noticed that the number of students attending these schools is gradually diminishing. The question of the future of these schools has not as yet been finally decided. The Director of Surveys examined the school at Gauhati and made valuable suggestions as to the curriculum of the schools, and his suggestions will come up for consideration when the future of the schools is decided. Only four second-class certificates for survey in extension were granted during the year under rules 13B and 13C of the Assam Land Records Manual.

32. In Eastern Bengal no progress was made with the preparation of the new Survey and Settlement Manual. Changes, however, are still so frequent and so radical, and procedure in some respects is still so liable to reform, that this is a delay not without its compensations.

33. The report on a scheme of maintenance of record-of-right referred to in paragraph 6 of the Government Resolution on the annual report of last year was submitted by the Hon'ble Mr. Beatson Bell shortly after the close of the year.

34. Schemes in connection with the maintenance of *diara* maps referred to in paragraph 3 of the same Resolution have been discussed, but the question is difficult and not as yet ripe for comprehensive proposals.

35. Sufficient experience has not as yet been obtained in the work of cess-revaluation and in partition duties to make it proper to offer any criticism upon these experiments, but it is already abundantly clear that the procedure of both the Cess and the Partition Acts is unnecessarily dilatory and cumbersome.

36. Some progress was made with the Bakarganj Final Report, but it is not as yet finished, nor is it yet in the press.

37. No progress was made with the proposal referred to in paragraph 26 of last year's report for arranging a date in each district at which all temporary settlements of land revenue will simultaneously expire. There are obvious advantages in the proposal, but some legal and some practical difficulties.

38. A useful and popular order was embodied in Notification No. 3941F., dated the 29th June 1911, by the Government of India, limiting the certification fee on copies of "entries in a record-of-rights of a village or a portion thereof, maintained under the Bengal Tenancy Act, 1885" to eight annas.

39. Another Notification of the Government of India (No. 3119F., dated the 22nd May 1911), settled a long-standing question in cases under Section 106, Bengal Tenancy Act, by making the fee chargeable on plaints under that section an *ad valorem* fee chargeable under Article I of Schedule I of the Act in cases where the amount of such fee would be less than ten rupees.

40. A class was held in Dacca in August and September to train in survey the Kanungos enrolled by the different Collectors. It was, however, impossible to employ the candidates owing to the postponement of the Rajshahi operations. Some of the material was most unsuitable for an arduous life of work, which makes considerable demands upon the intelligence, and it will be necessary in future to be more careful in accepting the district selections.

41. I append here a few remarks on the subject of some of the appendices attached to this report.

Appendix F.

Extension survey in Assam was practically at a standstill. Only Lakhimpur shows any considerable area, and this was done as part of the resettlement operations in the district.

Appendix G.

The figures for the Eastern Bengal districts are of little value. There appears to be no organized system of recording mutations in any district except, perhaps, Bogra. In Bogra it is doubtful if the work is done with any thoroughness. At any rate there is a decline of 27 per cent. on the mutations of last year, for which no adequate explanation is offered.

The Collector of Bakarganj himself considers that the difference in percentage between Government and Wards' Estates is inexplicable. Clearly, only a proportion of the mutations in Government estates is recorded. The Assam figures in this appendix are dealt with in paragraph 24.

Appendix H.

The following statement compares the work shown in this appendix, with the work done in the previous five years:—

Period.	Percentage of marks lost or unvisited.	Percentage of those visited found to require repair.	Percentage of marks found to require repair which were not repaired.
1	2	3	4
Average of previous 5 years	10·8	19·9	6·9
1910-1911.	8·2	21·3	7·9

Appendix I.

This return is of little value, as no systematic arrangement is made in any district within my knowledge for the inspection and maintenance of boundary marks. Moreover, it does not include the marks put down in connection with completed district operations, such as Bakarganj and Chittagong. It is clear that a more thorough system is required for the tabulation and annual inspection of survey marks in Eastern Bengal.

42. There is nothing new to say on the subject of the increased use of the records-of-rights by the public and in the courts. There is no doubt a certain depreciation commonly expressed for the Chittagong record; but it is regarded immeasurably more often than it is disregarded. Landlords in Bakarganj have applied for wholesale copies of the record-of-rights, as they have found the management of their estates thereby much improved. Every year which passes has added to the general credit of the Bakarganj record, and even the Bar Library has begun to be convinced. In the districts now under settlement the records have made a notable advance in general estimation, and the impossible seems to have been achieved in that proceedings, which inevitably give much trouble and vexation to the general public, have become generally popular. This is largely due to the great increase in accuracy and to the employment of an educated agency with good pay and a good standard of conduct in the making of the record as well as in its supervision; but chiefly, no doubt, to the fact that settlement is no longer a synonym for extortion.

43. To turn lastly to the thorny subject of finance. A communication received late in the year from the Government of India has raised the whole subject of expenditure in Imperial Settlements and the scale of expenditure will no doubt be reviewed at the same time in the case of Collectorate Settlements. In the meantime, the Local Government has asked for revised estimates in all Imperial Settlements without delay. It is clear that the coming year will be one in which the whole basis of settlement finance will be examined afresh, and it is, therefore, unnecessary here to anticipate the results of such an examination on information which cannot be complete. It is sufficient to say that expenditure has outrun estimates, because new duties

have been undertaken without sufficient reference to their financial effect, and because the system in force of presenting settlement accounts is too defective to allow of accurate standard rates being framed and, therefore, of accurate initial estimates being worked out. In justice to the Settlement Officers, it must be added that no work of such magnitude as an Imperial Settlement is carried out with so complete and continuous a control by the officer in charge of all expenditure down to the pettiest item. Not only has every payment to receive the previous sanction of the Settlement Officer, but also travelling and contingency charges admissible in the general line are repeatedly cut down. In expenditure which is common to Collectorates and to Settlement Offices, such as the fees of copyists and tracers and the establishments of record-rooms, the settlement rates and the settlement scale are not merely below the Collectorate rates and scale, but very much below them. Each year the budget of each settlement is exhaustively examined, first by the Director of Land Records and then by the Board of Revenue. Economies are no doubt possible, but they can only be insignificant, while the survey is made with its present accuracy and the record prepared in its present form. To employ a cheaper agency in supervision and to employ a cheaper agency in the preparation of the record offer the only great possibilities of retrenchment, but the price to be paid is heavy and certain, and may be measured in advance in terms of inaccuracy, extortion and unpopularity.

It has been usual to compare the rates of work in the year under report with the standard rates in the main branches of settlement work. This comparison is accordingly made below with a caution, however, that without an analysis of charges for general supervision, which is not forwarded by the local officers, it is impossible to say how much of leave and similar charges should be, and how much has been, debited to the various stages of work :—

Cost per square mile of work done in the year.

District.	Cadastral survey.	*Khanapuri.*	Preliminary office work.	*Bujharat.*	Attestation and objection.	Total.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Jalpaiguri	128	60	29	97	42	356
Mymensingh	99	45	14	83	65	306
Dacca	114	69	16	116	100	415
Standard rate of Government ...	109	54	22	70	54	309

Another method of assessing average rates affords a valuable criticism upon these figures :—

District.	Number of plots per square mile.	Number of tenancies per square mile.		*Khanapuri* cost.	*Bujharat* cost.		Attestation cost.
		In *bujharat*.	In attestation.	Per 1,000 plots.	Per 1,000 plots.	Per 1,000 tenancies.	Per 1,000 tenancies.
1	2	3	4	5	6	7	8
Jalpaiguri	1,494	287	58	40	65	339	733
Mymensingh ...	876	191	203	50	88	435	366
Dacca	1,418	700	481	49	82	158	202
Standard rate of Government.	1,000	250	250	54	70	280	216

A comparison of the two sets of figures will show that the work in Jalpaiguri and Mymensingh was not so heavy as that contemplated in the standard rates, whereas in Dacca it was greatly heavier. The second set of figures, therefore, afford an explanation of the high cost rates in Dacca. In last year's figures, Faridpur, in an area perhaps somewhat more difficult, showed a cost rate of Rs. 519 per square mile, against the Dacca figure of Rs. 415.

It may be added that the standard rate for attestation and objections is altogether too low. The cost of decision of objections under Section 103A, worked out to Rs. 3 per case in Dacca and to nearly Rs. 2 per case in Faridpur. The objections in both these districts are civil suits in miniature, and it is impossible to make decisions rapidly. As there are 20 objections filed to the square mile, it is clear that the attestation rate of 54 is swallowed up in the decision of objections alone. This is only one amongst the many questions which require thorough examination in connection with settlement finance.

In conclusion, I desire to acknowledge the willing co-operation of Captain Hirst, Director of Surveys, and of all the Districts Officers. The remarks made upon the progress of each Settlement in the foregoing paragraphs afford a sufficient commentary upon the work done by the various Settlement Officers. Assistant Settlement Officers are a very hardworking body of men and where the general level was so high, it would be invidious to refer to individuals. My predecessor and I wish again to express our warmest thanks to many friends, official and non-official, for help and hospitality during our tours.

I have the honour to be,

SIR,

Your most obedient Servant,

J. C. JACK,

Officiating Director of Land Records,

Eastern Bengal and Assam.

APPENDIX A.

"Permanently-settled" in this table includes "Revenue-free."

Districts.	Classification of district area. (Square miles.)			Area for which a cadastral survey and record-of-rights are complete. (Square miles.)			Area for which a cadastral survey and record-of-rights were being prepared in 1910-11. (Square miles.)			Area outstanding. (Square miles.)			Remarks.
	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dacca ...	2,656	126	2,782	80	9	89	...	...	...	2,576	117	2,693	
Mymensingh ...	6,107	225	6,332	95	36	131	2,511	80	2,591	3,501	109	3,610	
Faridpur ...	2,390	195	2,585	99	11	110	2,291	184	2,475	...	...	...	
Bakarganj ...	2,272	1,478	3,750	2,272	1,478	3,750	...	...	...	...	...	...	
Chittagong ...	713	1,364	2,077	713	1,137	1,850	...	...	...	...	227	227	
Tippera ...	2,303	136	2,499	756	80	836	69	40	109	1,538	16	1,554	
Noakhali ...	1,460	184	1,644	349	124	473	...	57	57	1,111	3	1,114	
Rajshahi ...	2,504	29	2,593	62	9	71	...	11	11	2,502	9	2,511	
Dinajpur ...	3,946	...	3,946	517	...	517	...	..	...	3,429	...	3,429	
Jalpaiguri ...	1,062	1,980	3,042	...	...	...	1,034	1,980	3,014	28	...	28	
Rangpur ...	3,486	6	3,492	106	...	106	...	...	...	3,380	6	3,386	
Bogra ...	1,319	40	1,359	13	40	53	...	...	...	1,306	...	1,306	
Pabna ...	1,497	342	1,839	26	9	35	117	8	125	1,354	325	1,679	
Malda ...	1,860	39	1,899	86	2	88	...	3	3	1,774	34	1,808	
Total Eastern Bengal Districts	33,695	6,144	39,839	5,174	2,935	8,109	6,022	2,363	8,385	22,499	846	23,345	
Cachar ...	2	3,767	3,769	2	1,054	1,056	...	...	...	...	2,713	2,713	In the case of the Assam districts, areas surveyed in extension have been included in columns 5—7. Areas under re-settlement have not been specially entered: such areas also appear in columns 5—7. Columns 8-10 are therefor blank.
Sylhet ...	3,825	1,555	5,380	...	816	816	...	...	...	3,825	739	4,564	
Goalpara ...	2,528	1,433	3,961	...	310	310	...	...	...	2,528	1,123	3,651	
Kamrup ...	53	3,805	3,858	53	2,173	2,226	...	...	...	...	1,632	1,632	
Darrang ...	8	3,398	3,406	8	1,197	1,205	...	...	...	...	2,201	2,201	
Nowgong ...	4	3,800	3,804	4	1,124	1,128	...	...	...	...	2,676	2,676	
Sibsagar ...	62	4,934	4,996	62	1,790	1,852	...	...	...	...	3,144	3,144	
Lakhimpur ...	3	4,204	4,207	3	732	735	...	...	...	...	3,472	3,472	
Garo Hills ...	...	3,140	3,140	...	41	41	...	...	...	...	3,099	3,099	
Total Assam Districts ...	6,485	30,036	36,521	132	9,237	9,369	...	...	...	6,353	20,799	27,152	

APPENDIX B.

General Progress of Survey and Settlement in Eastern Bengal for the year ending 30th September 1911.

Name of District.	Traverse survey by Settlement parties. (Square miles.)		Cadastral survey by Settlement parties. (Square miles.)		Khanapuri. (Square miles.)		Bujharat. (Square miles.)		Attestation. (Interests.)		Draft publication. (Interests.)		Objection under Section 103A.		Final publication. (Interests.)		Recovery of costs.		Expenditure during the year.
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Cases for disposal.	Cases disposed of.	Programme.	Work done.	Amount for realization.	Amount realized.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
																	Rs.	Rs.	Rs.
Dacca	...	...	543	543	543	543	543	543	101,262	101,262	101,262	101,262	1,419	789	...	...	...	...	2,78,416
Mymensingh ...	...	...	870	858	870	854	846	814	179,477	178,481	179,477	178,116	8,633	7,883	...	...	...	...	4,31,331
Faridpur ...	...	...	...	...	...	...	...	...	...	...	25,000	1,500	26,910	24,372	25,000	...	...	...	3,36,690
Tippera ...	1	1	1	1	1	1	2	1	1,300	1,066	...	...	12	12	34	34	...	...	1,767
Noakhali ...	23	23	23	23	42	23	38	7	942	942	942	942	159	159	3,079	253	...	17,808	13,587
Rajshahi ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	374	...	...	...	1,202
Dinajpur ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	7,580	7,580	...	...	4,627
Jalpaiguri ...	...	...	522	522	522	522	522	522	20,694	20,694	20,694	20,694	6,564	6,564	...	...	...	...	3,14,955
Bogra	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1,202	1,202	...	...	680
Pabna	...	...	...	...	...	...	...	...	...	...	...	...	225	225	1,722	1,722	1,685	1,461	946
Total ...	24	24	1,959	1,947	1,978	1,943	1,951	1,887	303,675	302,445	327,375	302,514	43,922	40,004	38,991	10,791	1,685	19,269	13,84,201

APPENDIX C.

Judicial Work of Revenue Officers in Eastern Bengal for the year ending the 30th September 1911.

Name of district.	Suits under Section 105.								Suits under Section 106.							
	Cases for disposal.	Cases disposed of.	Appeals to Special Judge.						Cases for disposal.	Cases disposed of.	Appeals to Special Judge.					
			Appeals for disposal.	Appeals disposed of.	Results of appeals.						Appeals for disposal.	Appeals disposed of.	Results of appeals.			
					Decision upheld.	Decision modified.	Decision reversed.	Retrial ordered.					Decision upheld.	Decision modified.	Decision reversed.	Retrial ordered.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Bakarganj ...	2	...	13	5	4	1	...	...	...	...	3	2	1	...	1	...
Noakhali ...	791	...	306	306	222	...	...	84	21	21	39	37	31	2	4	...
Dinajpur ...	288	288	2	...	...	...	...	...	4	4	4	...	...	...	...	...
Rajshahi ...	...	...	...	...	...	...	...	...	96	22	...	...	...	...	...	...
Pabna ...	117	117	230	230	25	205	...	...	12	12	13	13	10	2	...	1
Bogra ...	341	21	...	...	...	...	...	...	35	35	...	...	...	...	...	...
Total ...	1,539	426	551	541	251	206	...	84	168	94	59	52	42	4	5	1

APPENDIX D.

Progress in the Settlement of Land Revenue in Eastern Bengal during the year ending on 30th September 1911.

Name of district.	Determination of tenants' rents.					Determination of revenue payable by proprietors in temporarily-settled estates.				
	Number of rents for determination.	Number of rents determined.	Percentage of increase or decrease of rent determined in the case of			Number of estates for determination.	Number of estates determined.	Old *jama* payable to Government.	New *jama*.	
			Tenure-holders.	*Raiyats*.	Under-*raiyats*.				*Raiyatwari* assets.	Payable to Government.
1	2	3	4	5	6	7	8	9	10	11
								Rs.	Rs.	Rs.
Bakarganj ...	4,231	4,231	+48	−·50	−8	22	22	38,021	71,427	55,836
Noakhali ...	2,826	430	...	+390	+21	12	1	1,238	...	1,657
Rajshahi ...	374	356	...	+44·66	...	3	...	...	...	...
Pabna ...	...	...	...	...	...	1	1	793	1,136	795
Dinajpur ...	288	288	+51	+15	...	...	...	...	...	...

APPENDIX E.

Progress of Resettlement work in Assam during the year ending on 30th September 1911.

Name of district.	Number of villages in which										Expenditure during the year.
	Correction of maps and records.		Soil classification.		Record attestation.		Revenue attestation.		Submission of rate reports.		
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	
1	2	3	4	5	6	7	8	9	10	11	12
											Rs.
Lakhimpur ...	663	505	663	507	648	648	...	480	...	480	44,041

APPENDIX F.

Progress of "Extension" Surveys in Assam for the year ending 30th September 1911.

Name of district.	Total area of district. (Square miles.)	Area surveyed cadastrally by professional party. (Square miles.)	Area surveyed in extension by village recorders.			Total area cadastrally surveyed. (Square miles.)	Remarks.
			Previously. (Square miles.)	During the year under report. (Square (miles.)	Total. (Square miles.)		
1	2	3	4	5	6	7	
Cachar	3,769	1,034	22	...	22	1,056	
Sylhet	5,380	545	264	7	271	816	
Goalpara	3,961	...	308	2	310	310	
Kamrup	3,858	1,966	260	...	260	2,226	
Darrang	3,406	857	348	...	348	1,205	
Nowgong	3,804	1,012	116	...	116	1,128	
Sibsagar	4,996	1,521	331	...	331	1,852	
Lakhimpur... ...	4,207	269	436	30	466	735	
Garo Hills	3,140	...	41	...	41	41	
Total ...	36,521	7,204	2,126	39	2,165	9,369	

APPENDIX G.

Maintenance of the Records during the year ending the 30th September 1911.

(WHOLE PROVINCE.)

Name of district.	Number of tenancies or periodic *pattas* on area dealt with.	Number of mutations recorded.			Percentage of column 5 on column 2.	Remarks.
		By formal procedure. (Assam.)	By summary procedure. (Assam.)	Total.		
1	2	3	4	5	6	7
EASTERN BENGAL						
Mymensingh... Government Estates...	7,588	...	...	130	1·71	
Bakarganj { Government Estates ...	20,001	...	...	479	2·39	
Bakarganj { Court of Wards ...	32,569	...	...	4,123	12·65	
Chittagong ... { Government Estates ...	98,370	...	...	3,007	3·06	
Chittagong ... { Court of Wards ...	11,816	...	...	676	5·72	
Tippera ... { Government Estates ...	11,362	...	...	516	4·5	
Tippera ... { Court of Wards ...	76,046	...	...	1,649	2·2	
Noakhali ... Government Estates ...	13,748	...	...	648	4·71	
Rajshahi ... Government Estates ...	310	...	...	20	6·45	
Rangpur ... Government Estates ...	49	...	...	...	...	
Dinajpur ... Court of Wards ...	41,117	...	...	696	1·69	
Jalpaiguri ... Government Estates ...	34,973	...	...	1,291	3·69	
Bogra ... Government Estates ...	7,727	...	...	391	5·06	
Malda ... Government Estates ...	4,479	...	...	...	...	
Total ...	360,155	...	...	13,626	3·78	
ASSAM.						
Cachar	52,647	1,760	19,922	21,682	41·18	
Sylhet	42,065	382	7,757	8,139	19·35	
Goalpara	1,705	24	182	206	12·08	
Kamrup	140,886	1,705	7,327	9,032	6·41	
Darrang	87,878	365	5,555	5,920	6·73	
Nowgong	60,526	343	3,204	3,547	5·86	
Sibsagar	156,613	2,364	4,079	6,443	4	
Lakhimpur	...	...	...	...	...	District under re-settlement.
	542,320	6,943	48,026	54,969	10·13	

APPENDIX H.

Condition of Survey Marks in Assam during the year ending 30th September 1911.

No.	Classification.	Total number of marks.	Total number found in good order.	Number found not in good order.		Total of columns 4 and 5 in good order on 1st October 1910.	Number lost or left unvisited.
				Repaired.	Not repaired.		
1	2	3	4	5	6	7	8
1	THEODOLITE STATIONS—						
	(*i*) Stone prisms ...	14,175	12,331	612	319	12,943	913
	(*ii*) Square stones or blocks	38,189	30,205	2,341	1,605	32,546	4,038
	(*iii*) Other marks ...	72,106	40,210	17,323	9,302	57,533	5,271
2	BOUNDARY MARKS OF DISTRICTS, ETC.—						
	(Other than theodolite stations)—						
	(*i*) Stone prisms ...	1,859	1,806	1	2	1,807	50
	(*ii*) Square stones or blocks	7,281	6,318	2	32	6,320	929
	(*iii*) Other marks ...	2,304	1,560	120	26	1,680	598
3	BOUNDARY MARKS OF PRIVATE PROPERTY—						
	(Other than theodolite stations)—						
	(*i*) Stone prisms ...	4,765	4,243	87	193	4,330	242
	(*ii*) Square stones or blocks	16,206	14,232	583	747	14,815	644
	(*iii*) Other marks ...	7,731	5,802	291	693	6,093	945
4	KANUNGOS' MOUNDS ...	10,108	6,286	1,976	1,053	8,262	793
	Total ...	174,724	122,993	23,336	13,972	146,329	14,423

APPENDIX I.

Result of Inspection of Survey Marks in Eastern Bengal during the year ending the 30th September 1911.

Division and District.	Total number of estates surveyed under the Survey Act or Bengal Tenancy Act.	Total number of estates in which permanent boundary marks are erected.	Number of marks erected in the estates mentioned in column 3.	Number of marks inspected during the year under report.	Result of inspection of the marks shown in column 5.			Number of damaged or missing marks restored.	Cost of restoration and how met.	Result of prosecution, if any.
					Number in fair order.	Number damaged.	Number missing.			
1	2	3	4	5	6	7	8	9	10	11
CHITTAGONG DIVISION—			GOVERNMENT ESTATES.							
Chittagong	80,559	Not reported.	Not reported.	358	346	...	12	...	...	
Tippera	142	Ditto	301	73	69	1	3	...	...	
Noakhali	9	Ditto	Not reported.	100	94	3	...	1	No cost incurred.	
RAJSHAHI DIVISION—										
Jalpaiguri	5	5	2,541	41	41	...	...	...	...	
Malda	6	24	251	...	...	...	9	...	...	
Bogra	2	5	478	435	435	...	...	...	...	
DACCA DIVISION—			WARDS' ESTATES.							
Bakarganj	3	3	1,096	1,078	1,072	5	1	...	...	
RAJSHAHI DIVISION—										
Dinajpur	1	1	259	255	255	...	...	...	...	
CHITTAGONG DIVISION—										
Tippera	2	2	3,023	215	121	18	76	9	Rupees 25 by grant from the Sarail estate.	

APPENDIX J.

Details of Expenditure incurred in the larger settlement operations in Eastern Bengal during the year ending 30th September 1911.

Branch of work.	Dacca.	Faridpur.	Mymensingh.	Jalpaiguri.	Remarks.
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	
Cadastral survey ...	63,317	304	85,305	66,799	
Khanapuri	37,855	...	38,613	31,195	
Preliminary office work ...	21,162	...	11,845	15,263	
Bujharat	63,100	102	67,864	50,874	
Attestation and objections ...	25,520	48,126	65,277	15,165	
Final office work ...	9,369	1,17,939	55,096	35,661	
Case work and revision of revenue.	...	9,217	...	15,661	
Computation and recovery of costs.	...	...	...	...	
Supervision	26,585	47,202	62,021	63,761	
Supplies, services and contingencies.	31,508	94,534	45,310	16,634	
Cess...	...	8,818	...	1,967	
Partition	...	124	...	...	
Diara work	...	10,324	...	...	
Forest survey	...	...	...	1,975	
Total ...	2,78,416	3,36,690	4,31,331	3,14,955	

Dacca : Printed and Published by E. Hill, Superintendent, Eastern Bengal and Assam Government Central Press (Bd. of Rev.) No. 168—660—23-2-1912.

BOARD OF REVENUE, EASTERN BENGAL AND ASSAM.

SURVEY AND SETTLEMENT BRANCH.

GROUP I.

No. 388 S. & S.

FROM

F. P. DIXON, Esq., I.C.S.,
SECRETARY TO THE BOARD OF REVENUE,
EASTERN BENGAL AND ASSAM,

To

THE SECRETARY TO THE GOVERNMENT OF
EASTERN BENGAL AND ASSAM,
REVENUE DEPARTMENT.

Dated Dacca, the 16*th February* 1912.

Member in charge.
The Hon'ble Mr. J. C. ARBUTHNOTT, C.I.E., I.C.S.

SIR,

I AM directed to forward the Survey and Settlement Reports for the year ending the 30th September 1911 with the Board's remarks thereon.

2. The Survey Report was received before the prescribed date while the Settlement Report reached the Board on the 4th December 1911. The Board regret the delay in submitting the reports: the proofs had to be sent to the Director of Surveys and Director of Land Records for examination and correction and the proof of the Survey Report was not returned till the 23rd January.

I have the honour to be,

SIR,

Your most obedient Servant,

F. P. DIXON,

Secretary to the Board of Revenue,
Eastern Bengal and Assam.

BOARD'S REMARKS ON THE SURVEY AND SETTLEMENT REPORTS FOR THE YEAR ENDING ON THE 30TH SEPTEMBER 1911.

Survey Report.

Paragraph 6 (*a*).—The proposal to re-cast the provisional Accounts Manual has been suspended until the future of the Survey Department is definitely known.

Paragraph 6 (*b*).—With a view to reducing Traverse rates the Board in their letter No. 1777 S. & S., dated the 7th September 1911, to the Commissioner of Dacca, ordered that as an experiment rough demarcation should be arranged for by the Collectors of Dacca and Mymensingh in September and October and that the demarcation should be followed immediately by the line clearing staff of the Director of Surveys and then by the Traverse staff. The result of the experiment is awaited.

Paragraph 6 (*d*).—Adjustments of Establishment.—The Director of Surveys submitted proposals for the revision of Establishments of the Eastern Bengal Traverse Detachments, the Drawing Office and his own office. All three questions have been dropped for the present under the orders of the Board.

Paragraph 6 (*f*).—Drawing Office.—The preparation of the Hand-Book is in abeyance for the present.

Paragraph 7.—The experiment with the "Milligan Tartan" Section paper will, it is hoped, prove successful.

Paragraph 8.—The Board consider that the pamphlet which is the result of much study of the subject will be of great value and accept the proposal of the Director of Surveys that the rules yet to be framed shall be arranged with reference to the paragraphs of the pamphlet. The pamphlet is now being printed for distribution to the District Officers.

Paragraph 11.—The Board have accepted the Director of Surveys' suggestions for the classification and storage of maps in the Dhubri record-room; but before passing orders have asked the Director of Surveys for further information on the effect of his proposals on the registers for survey records now maintained in this record-room.

Paragraphs 13, 14, 15 *and* 16.—The subject of Survey training in this Province is under consideration in the Education Department. The transfer of Survey teaching from the Dacca Engineering School to the Survey Department cannot be effected before August 1913 as it is necessary to provide for the conclusion of their course by pupils now under instruction and for the closing of the classes of the Educational Department to new pupils.

Paragraph 17.—The Director of Surveys has been permitted by the Board at the instance of the Inspector-General of Police to visit the Police Training School to advise on the teaching of surveying.

Paragraph 21.—The report on the result of the training class held at Gauhati has been submitted separately to Government. The result has been satisfactory.

Paragraphs 25 *to* 28.—The Board accept the principles laid down by the Director of Surveys for the employment of approved Surveyors in Assam and trust they will be adopted by the future Assam Administration. In a recent appointment of approved Surveyors the condition has been imposed that their work shall be liable to inspection by the Director of Surveys and his gazetted staff, and that if found to have been entrusted to unqualified assistants it shall render the certificate of approval liable to be withdrawn.

Paragraph 127.—A professional survey of the old town of Dacca has been found necessary as it has been ascertained that there exists a considerable quantity of unassessed Government land.

Paragraphs 136-140.—The Board, with a view to early disposal of this question, have called for a report from the Commissioner, from whom no information on the subject has as yet been received.

Paragraphs 141-151.—The survey of the line has now been completed and its demarcation has been sanctioned in Board's Office Memorandum No. 286 S & S., dated the 1st February 1912.

Paragraphs 170-171.—The work of the reproduction section has been most satisfactory.

Paragraphs 173-178.—The rules for the preparation of Thana of Jurisdiction Maps have been approved by the Board and printed.

Paragraph 179.—The Board have sanctioned the abolition of the Badar Section.

Paragraphs 184-187.—The formation of the map issue and copying section was sanctioned by Government as an experimental measure for one year, and a report on its working was asked for on the expiry of that period. This report is contained in these paragraphs, extracts of which have been submitted separately to Government. Both questions referred to in paragraph 186 upon which the success of the scheme depends, being undecided, the Board have asked that the period of sanction be extended to 31st March 1912.

General.—The Board desire again to bring to the notice of Government the ability and zeal displayed by Captain Hirst in the management of his Department: their thanks are due to him for a successful year's work.

Settlement Report.

Paragraphs 5 *and* 36.—The Board regret that the Bakarganj report has not yet been completed and trust that it will not be further delayed.

Paragraph 6.—The work in Faridpur is progressing satisfactorily and the operations will, it is expected, be completed by about March 1915. [The Board anticipate improvement in the accuracy of the results and a reduction in the cost of Diara Settlement, Cess Revaluation and Partition.] As the Director of Land Records has pointed out Cess Revaluation cannot be completed in areas affected by Diara proceedings until final orders on those proceedings have issued.

Paragraph 7.—Proposals for the assessment of backward parganas of the Western Duars were received after the close of the Settlement year. The Settlement Officer's proposals have been accepted by the Board.

The question of printing the Jalpaiguri record is under consideration; the Director of Land Records has been asked for a full and detailed report on the subject.

Paragraphs 8 *and* 9.—The progress in Dacca and Mymensingh is satisfactory. The Board agree that the question of checking extensions of the *barga* system is important and await the Director of Land Record's promised report on the subject.

Paragraph 12.—The Director of Surveys has undertaken to supply comparative maps for Dakhin Shahbazpur and the Galachipa Group by the 15th February 1912.

Paragraph 13.—The question of appointing a Special Deputy Collector in charge of Settlement in Noakhali with a settlement allowance of Rs. 100 per mensem is still under consideration.

Paragraph 15.—The Board are enquiring into the extravagant expenditure on the settlement of the Jhargaon Estate and will take necessary action.

Paragraph 20.—The group reports of "A" Block (Dibrugarh, Ranganadi and Subansiri groups) were received during the year and the assessment proposals were sanctioned in December. Proposals for the assessment of "B" Block have not yet been received.

Paragraph 24.—The Board regret to notice the Director of Land Records' criticisms on Land Records work in Assam. They do not think deterioration is due to lack of recognition by promotion. Their attention was called during the year to local verifications made in Cachar in the lax way reported by the Director of Land Records. The officer in fault has proceeded on leave and will not be recommended for duty involving field work in future. The Board hope the orders issued for real local verification will have effect and that Land Records work will return to the old high standard in both the Assam and Surma Valleys. But everything depends on adequate supervision by the district officers.

Paragraph 33.—The Hon'ble Mr. Beatson-Bell's report on the maintenance of the records-of-rights is now in the press.

Paragraph 37.—The proposal to fix a date in each District or Division for the termination of Settlement therein has been referred to the Eastern Bengal Commissioners. The Board have explained in detail the legal and practical difficulties which stand in the way of the proposed reform and have asked for the advice of the officers consulted.

Paragraph 42.—The growing popularity of the Bakarganj record is gratifying.

Paragraph 43.—The question of Settlement expenditure has received close attention. The Board not only recognise the excellent value obtained for the money spent on Settlement but also the necessity for strict control of expenditure. Complete information at the time of framing estimates is equally essential.

With regard to petty Settlements, the control of which was transferred from the Commissioner to the Director of Land Records under Government Order No. 379T., dated the 11th February 1907, the Board are considering the provision of a closer check on the work of local officers and the progress of such operations.

General.—The Board desire again to bring to the notice of Government the services of Mr. Beatson-Bell to whom the Settlement Department of this Province owes so much. Mr. Jack has worthily maintained the traditions of Mr. Beatson-Bell and the Board appreciate the ability and the *esprit de corps* of the officers of all grades serving under them.

Resolution on the Survey and Settlement Reports, Eastern Bengal and Assam, for the year ending the 30th September 1911.

Extract from the Proceedings of the Lieutenant-Governor of Eastern Bengal and Assam in the Revenue Department, No. 455-R., dated the 28th February 1912.

READ—

The Survey and Settlement Reports for the year ending on the 30th September 1911 and the remarks recorded on them by the Board of Revenue.

RESOLUTION.

The Survey and Settlement Reports were submitted punctually to the Board of Revenue but, owing to the fact that the proofs were sent for examination and correction to the Director of Land Records and the Director of Surveys, the Board's covering letter did not reach the Local Government until after the date on which the reports were due to the Government of India. No special circumstances occurred during the year to account for the delay, for which the system in force is responsible. Both Directors are on tour during the greater part of the cold weather and time is lost in sending to them proofs which it is not easy to check in camp. It is a question for consideration whether the work of revision could not be done adequately and more promptly in the Secretariat.

2. These reports are the last which will be submitted for the Province of Eastern Bengal and Assam, and the Lieutenant-Governor desires to avail himself of the opportunity to express his recognition of the benefits which have been conferred on the people by the operations of the Survey and Settlement Department. The Director of Land Records writes that "in the districts now under settlement the records have made a notable advance in general estimation, and the impossible seems to have been achieved in that proceedings, which inevitably give much trouble and vexation to the general public, have become generally popular." It is particularly gratifying to learn that the efforts which have been made, at no inconsiderable cost to Government, to create a well-trained and adequately paid staff have not been wasted and that the extortion once freely practised by the subordinates of the Settlement Department as a means of increasing their incomes is now almost unknown. That the operations have benefited not only the tenants but also the landlords is shown by the action of the landlords of Bakarganj who have applied for complete copies of the record-of-rights which they find very useful in the management of their estates. When this province first came into existence only one major settlement, that of Bakarganj, was in progress. Since 1905 operations have been extended to the districts of Faridpur, Mymensingh, Dacca, and Jalpaiguri and, though the cost has been heavy, the Lieutenant-Governor is convinced that the money has been well spent and that the advantages to the public have more than outweighed the expense.

3. The superior staff of the Survey Department has been finally fixed. The advice of the Director of Surveys is now frequently sought in cases in which maps are concerned and his work has increased to such an extent with the expansion of his Department that it has been found necessary to give him a Personal Assistant. A valuable officer for this post, of whose work Captain Hirst speaks highly, has been found in Mr. Shaw, late of the Survey of India. The Drawing Office has continued to do useful work and the Map Issue and Copying Section has been largely employed in making copies of old maps to replace records missing from the Collectorate Record-rooms. Maps are also supplied to the public, but the rates hitherto charged for them have proved inadequate and will have to be raised. While the Drawing Office should not be converted into a large source of profit, it is only fair that it should make a reasonable charge for work done for private persons.

4. The recommendations made by the Director of Surveys with regard to the clearance and demarcation of the boundaries of tea grants and his suggestion that a definite standard of efficiency should be demanded of the staff of Government-approved surveyors in Assam, to ensure which the license of the approved surveyor should in case of bad work be liable to withdrawal, will doubtless receive the consideration of the Assam Administration. The Director's proposal gradually to make a complete analysis of the Map records of the province has received the attention of the Board of Revenue, but the work will take a long time to accomplish. In the meantime, Captain Hirst has been authorised to publish a treatise dealing with the various kinds of maps in existence relating to Eastern Bengal. This book should be of great value to Judicial and Executive officers as well as to private persons. Copies of it will be distributed by the Government.

5. The important question of Survey education has been under consideration during the year and it has been decided to confine the Engineering schools to their legitimate work, the training of land surveyors being placed under the Director of Surveys.

6. Satisfactory progress has been made in the settlements of the Faridpur, Mymensingh, Dacca, and Jalpaiguri districts. The inception of operations in the Rajshahi district has, with the sanction of the Government of India, been postponed until the field season of 1912-13. The Lieutenant-Governor has noted the Director's condemnation of the *barga* system in the district of Dacca and trusts that it will be possible to find means of checking the increase of this form of tenancy. The introduction of the system of revenue attestation in the Lakhimpur settlement is reported to have been appreciated by the raiyats, but it has added considerably to the cost of the operations. The deterioration of Land Records work in Assam noticed by the Director is highly unsatisfactory, and His Honour agrees with the Board that the cause is to be found less in lack of recognition by Government of the work done by the Circle Officers than in inadequate supervision and insufficient local verification. For this the Mandals, Circle Officers, and District Officers must share the blame, and the Lieutenant-Governor hopes that the stringent orders issued by the Board will bring about a marked improvement.

7. The question of finance discussed by Mr. Jack in the 3rd paragraph of his report is one of great importance and has engaged the careful attention of the Local Government, which has recently passed strict orders on the subject. For the inaccuracy of the estimates, the cost of settlement work, the novelty of the subject, and the complexity of the conditions, which vary much from district to district, may be accepted as an adequate excuse, but there can, the Lieutenant-Governor fears, be no doubt that the improvement of settlement procedure has received more attention than economy and accuracy of estimates with the result that neither the Board of Revenue nor the Local Government has received the information necessary to enable them to follow closely the progress of expenditure or to revise the estimates when this course should have adopted. It is hoped that the orders which have now been issued will prevent a recurrence of this state of things. Revised estimates have been called for in respect of the districts of Mymensingh, Dacca, and Jalpaiguri.

8. The Lieutenant-Governor desires to place on record his appreciation of the services of Mr. Beatson Bell during his long administration of the Settlement Department which has, under his control, attained a high standard of efficiency. His work has been well continued by Mr. J. C. Jack. The thanks of Government are also due to Captain Hirst for his zealous administration of his Department.

ORDER.—Ordered that this Resolution be published in the *Eastern Bengal and Assam Gazette*, and that a copy of it, with copy of each of the two Reports, be submitted to the Government of India.

By order of the Lieutenant-Governor,

J. F. GRUNING,

Secretary to Government, Eastern Bengal and Assam,
Revenue and General Department.

E. B. & A. G. C. P. (R. & G.) No. 73—400—4-3-1912—R. B.

REPORT

ON THE

SURVEY AND SETTLEMENT OPERATIONS

IN

ASSAM

FOR THE

Year ending 30th September 1912.

132937

PRINTED AT THE ASSAM SECRETARIAT PRINTING OFFICE.

1913.

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SHILLONG:

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SURVEY REPORT.

CONTENTS.

CHAPTER I. PAGE

General Remarks ... ... 1—4

CHAPTER II.

(*No. 4 Party, Surveys.*)

Lakhimpur—Boundary survey of tea grant land 5
Ditto—Experimental survey of Talap tea garden ... *ib.*
Ditto—Dehing and Jaipur forests ... ... *ib.*
Goalpara—Bhutan-Goalpara boundary... ... ... *ib.*
Ditto—Pargana Duar boundary (Main Case) 6
Ditto—Ditto Guma-Ghurla ... ... *ib.*
Ditto—Chat Lokutia (Cooch Behar) ... ... *ib.*
Ditto—Adhardiya-Srijangram ... ... *ib.*
Ditto—Goalpara-Garo Hills boundary 7
Ditto—Traverse for extension Cadastral work ... ... *ib.*
Ditto—Taria Pargana... ... ... *ib.*
Ditto—Goalpara-Kamrup boundary (Habraghat) ... 8
Sibsagar—Ghiladhari tea grant dispute ... ... *ib.*
Khasi and Jaintia Hills—Pillars 35 to 37, Sylhet boundary ... *ib.*
Ditto—Pillars 14 to 17, Sylhet boundary ... ... *ib.*

CHAPTER III.

Drawing Office 9

CHAPTER IV.

Services of Officers 10

REPORT

ON THE

SURVEY OPERATIONS IN ASSAM

FOR THE

Year ending 30th September 1912.

No. 4751R.—7, dated Shillong, the 30th December 1912.

From—Captain F. C. HIRST, I.A., Director of Surveys, Bengal and Assam,

To—The Second Secretary to the Chief Commissioner of Assam.

I have the honour to forward my report upon the work of my Department in Assam during the past year. I have held charge during the whole period reported upon.

2. The outturn for the year cannot be given concisely in intelligible form, because it consists of a miscellany of work, the greater part of which cannot be reduced to any equivalent of square miles of outturn on a definite scale. The total outturn, therefore, can only be gathered from a perusal of each item reported upon; it will suffice to say here that it represents a very great increase to previous year's work.

3. During the year (from 1st April 1912) Assam became, once more, a separate Administration, but the Government of India ordered that existing arrangements for local surveys in Bengal and Assam should remain undisturbed. I therefore still hold charge of the work in the old Province of Eastern Bengal and Assam, but my title has been changed to Director of Surveys, Bengal and Assam.

The Government of India's orders have been rigidly carried out except as regards the constitution of No. 4 Party. By the recent organization (1909—1912) it dealt with the miscellaneous work of Eastern Bengal and Assam; the amount of that work has increased greatly, and it has become impossible to arrange for the proper supervision of a large number of petty surveys spread over such a large area. I have, therefore, divided the miscellaneous work in Eastern Bengal evenly over its three parties, and have placed the Assam work altogether under No. 4 Party: this gives an economical and satisfactory organization for both provinces, and whether the territorial redistribution of 1st April 1912 had occurred or not, this change in organization would have had to be made. Early in 1914 the Government of India requires a report as to how local surveys are to be administered in the future, and Colonel Crichton (Director of Surveys, Bihar and Orissa), who controls the surveys of Western Bengal and those of Bihar and Orissa, and I are already formulating plans for submission to our respective Governments. So far as my own work is concerned, the effect of the territorial redistribution has been to increase work considerably, since I am now dealing with two Governments instead of one and since the conditions of both, as regards local surveys, differ widely.

4. An important conference was held at Shillong on the 10th June 1912, and at it several questions regarding the future conduct of Assam surveys were considered. The Chief Commissioner has since given orders upon most of the points discussed and reported upon by the conference. These cannot be entered into in detail here, but since they should place Assam surveys upon a sound basis and since they will introduce order in several matters in which confusion has reigned in the past, I venture to outline the policy now embarked upon, in some detail, so that Survey

officers may have no excuse in the future, provided that funds are available, if the unsatisfactory state of affairs that has existed, and that still exists in certain matters, should recur. Most of the points referred to below were dealt with by the conference of June 10th, 1912 :—

(*a*) The old Revenue surveys, now generally some forty years old, showed that great confusion existed in the limits of grants given out for special cultivation, such as tea. They therefore made new maps of the tea grants, and these became a part of the lease papers. For nearly half a century, during which the development of the tea industry has been enormous, waste lands have been given out upon maps of exceedingly doubtful value. Government had no real survey agency of its own that was properly trained, and therefore, with few exceptions, it had to resort to using non-professional surveyors or professional surveyors, practising privately, who often seem to have forgotten the elements of their profession. These are exceptions on the Government side and on the private side, but they are rare. The result is great confusion.

This is to be obviated in two ways :—

(*i*) New grants are to be surveyed on new rules that professional surveyors would use, and all new grant maps are to be countersigned by the Director of Surveys.

(*ii*) The Director of Surveys is, by degrees, at the expense of Government, to carry out work similar to that done forty years ago by the Revenue Surveyors. Incidentally detail survey maps of gardens, suitable for working plan purposes, are to be made at the expense of the planters, should they wish for them.

Other special cultivation is to be dealt with in similar manner.

Thus, although the new maps will not legally supersede the original maps, both Government and its tenants will receive papers that will be valuable to them and which will ensure safety in interest all round.

(*b*) As resettlements of the temporarily settled districts of Assam occur at rather long intervals, and, as is natural in a developing country, when cultivation extends rapidly, between recurring settlements, a considerable area of newly-cultivated land has to be cadastrally surveyed by the District Survey staff.

The custom, for a long time, has been for extensions to be cadastrally surveyed upon plane table traverses; but although these meet local land revenue demands, when a new settlement is due, it is necessary to traverse with the theodolite all extension areas and then to re-cadastrally survey them. These areas are naturally very scattered, and the work is very expensive indeed.

The expense can be avoided by training the local survey staff to traverse all extensions with the theodolite, and to make the cadastral surveys upon traverse plots based upon computing and plotting done in my office. Thus, at a recurring settlement no professional agency need be called in as it has to be by the existing system. For me to detach surveyors to traverse extension means exorbitant expense annually, and the new system, which has been tried in Goalpara, will save in all directions. It is to be extended, by degrees, throughout Assam.

The District Survey staff to be used is the mandal agency; and it has already been shown that they are capable of reliable field work with the theodolite. With further education it is probable that the Assamese is capable of showing himself as reliable as a surveyor as any of the Indian races. I do not mean by this that all the Assamese are born surveyors. The above refers to areas now extending. Since No. 6 Party of the Survey of India left Assam, and since Mr. T. Shaw left in 1906, great accumulations of cadastral work based upon plane table traverses have occurred. These are now to be brought up to date by my staff, but this will take several years to carry out.

(*c*) The district record-rooms of Assam, from a map point of view, are very often in a state of inefficiency. This is due first to climatic causes, and, secondly, to unsuitable systems of racking and classification. The revenue record-rooms of Assam are to be dealt with district by district as opportunity occurs. Before any district is touched, a detailed knowledge of its survey history is needed and this is not very easy to obtain. Nowadays officers are seldom kept long enough in one constricted area to give them a chance even of taking an interest in this important question.

At present the Goalpara record-room is being dealt with.

In case it may be thought that my remarks above are invidious to Assam, I may say that the conditions of the Assam record-rooms are similar to those that I have seen in those other parts of India in which I have served.

(*d*) A set of Survey Gazetteers is to be issued for Assam; the information in these has first to be collected before (*c*) above can be dealt with.

Another, and important, aspect of these books is that they will afford members of the Imperial and Provincial Civil Service and officers of certain other Departments an easy means of learning much about their districts; this knowledge is usually only obtained by long experience. In these days of transfers, it is essential that as much information as is possible be given in handy form.

Assam falls in four volumes of Survey Gazetteers; at present the first volume is nearing completion, but it will be a long time before opportunity occurs, with the existing pressure of work, to complete the series.

(*e*) Survey education amongst officials generally is at a low ebb. It is proposed to start one amalgamated central survey school which will deal with mandals, and those higher in the scale than they, so that that portion of survey work that occurs in every district, but which is necessarily carried out by unprofessional surveyors, may be improved in the future.

In addition to the abovementioned matters, there is a large number of subjects that is receiving attention; these are often important, but they are but accessories to the items just mentioned. No progress can be expected, and no stability in survey administration anticipated, until the five main items so far dealt with have advanced well towards finality. With Assam as it stands they represent the most important moves towards efficiency in local survey matters, and, collaterally, efficiency in many phases of general administration.

5. Towards the end of the year under report the bringing up to date of those arrears of computation work which existed when I took over the Assam surveys in 1909 have been completed. Put briefly, since Mr. T. Shaw left Assam, there had been a steady deterioration in the completion, examination, indexing, and binding of traverse data that had steadily accumulated. In addition to this, irregular methods, which by 1909 had reached the stage of what looks like intentional vitiation of field books to obtain mathematical proofs, had become not infrequent. The result is that everything done in Assam during this period, in which a theodolite was involved, has had to be overhauled. These records have now been bound in over one hundred volumes and, so far as we know, a record of professional traverse work up to date has been obtained. In places, however, where irregularities had occurred, it has been found necessary to place statements in the front of each volume concerned, showing what figures were found in the field books, and what figures were, quite irregularly, found to have been used in the computing.

The brunt of this work has fallen upon Mr. Judd and upon three of his Indian staff. I am recommending the Indian staff for special remuneration for their work, most of which has been done voluntarily; without their voluntary co-operation these arrears would have necessitated a special staff, which would have cost Government a considerable sum of money.

For the first time now, since I came to Assam three and half years ago, I am in a position to know how far the traverse work done in Assam for a period of several years can, or cannot, be used as a basis of connection for extension surveys, or as a basis for cadastral work often, unfortunately, already executed.

These accumulations may be looked upon as a natural corollary of leaving Provincial Service officers without technical supervision for lengthened periods. In saying this I mean no disrespect to the Civil officers who have supervised seconded Survey officers nor to the Provincial Service of the Survey of India.

In the case of the former their object has been to get work done and it has been done at the expense of my staff for the last three and a half years; the officers concerned could not be expected to realize the paralysing effect of computation arrears, nor could they be expected to exercise professional supervision without professional training; the accuracy of cadastral work based upon indifferent traverse suffers incidentally.

As to the Provincial Service officer, his position is difficult. Placed upon detached duty, he must please his superior or expect to be reverted to his Department with a report that might affect his future adversely. Naturally he takes the former course.

I venture to think that this example of arrears of computations, and of bad detail work based upon indifferent traverse, tells its own story. Either a Local Government should admit the necessity for professional survey supervision by Imperial Service officers, or else it should dispense with professional surveyors altogether.

6. The existing magnetic declinations for each district in the province, in accordance with a precedent stated last year, were issued on a printed form to all who might be expected to use them.

This procedure will be followed annually.

7. The following pamphlets and books have been published or are under publication by me during the year: —

(*a*) Notes on the old Revenue surveys of Bengal, Bihar and Orissa, and Assam.

(*b*) A description of the Vandyke process.

(*c*) Notes on clearing boundaries.

(*d*) Correspondence extracts from the papers of the Jaintia Survey of 1837—1840.

In addition a Gazetteer history of the surveys of the Goalpara district (mentioned already) is nearly ready for the press.

I have to acknowledge the cordial help given me by Mr. T. Shaw and Mr. A. B. Smart in the compilations, etc., referred to above.

Mr. Shaw has written a valuable memorandum upon the comparing of old and new maps. His note covers ground which is of great importance in a branch of survey work that has never received the attention that it needs. The note is at present under publication.

8. Early in the year I made proposals for establishing checking standards at certain district headquarters for chains, optical squares and magnetic compasses. Unfortunately I received the special funds required too late to permit of the work being done before the grants lapsed on the 1st April 1912. The matter will receive further attention next cold weather.

I hope that these standards will help towards higher efficiency amongst private surveyors and those under the direct orders of District Officers.

9. The remainder of the Public Works Department offices in Shillong were taken over during the year and my whole Department is now housed in one place [*vide* paragraph 6(*e*) of my last Report].

10. Government orders regarding the Dhubri revenue record-room have not yet been issued (*vide* paragraph 11 of my last Report), but I understand that they will be issued shortly.

11. Mr. T. Shaw gave a series of lectures out of office hours during the recess season upon computing. These were largely attended by the staff.

12. A Departmental Co-operative Bank was started in November 1911, and it has done good work. Babu Damodar Rao, my Head Accountant, as Secretary, has been indefatigable and many of the staff have benefited greatly by being able to obtain small loans at reasonable rates of interest.

13. The Chief Commissioner expressed a wish to go round the offices of the Department in September 1912, but unfortunately has had to postpone his visit, as it was interfered with by stress of work in other directions.

14. Captain A. H. Gwyn, I.A., Officiating Deputy Superintendent, Survey of India, joined the Department as Assistant Director during the year.

15. In view of the prospective publication of Survey Gazetteers in this province I have curtailed my Report considerably.

16. I have omitted the tables usually shown at the end of my Report, because they are inapplicable to work of the nature reported upon.

As to the statement of cost, actual figures cannot be given in several cases because of the administrative changes that came into force from the 1st April 1912.

CHAPTER II.

No. 4 Party's outturn (Mr. O. E. C. Judd in charge).

DISTRICT LAKHIMPUR.

Traverse and Boundary Survey of the Tea Grants of District Lakhimpur.

17. This work was in continuation of that reported upon in paragraph 24, *et seq.*, of my last Report and I regret to say that I must again report that the programme remains uncompleted for the same reasons that I gave last year.

18. During the year 122 grants were dealt with; these include three grants excess traversed, because the traversers found duplicate grants with the same *patta* and case numbers, and were unable to discover which grants the lists supplied by the Settlement Officer referred to.

19. There remain, so far as we know, 32 grants for survey, and these, if we can find them, will be dealt with next year.

20. I have reported very briefly on this case intentionally. I have written a lengthy note on the whole subject of locating the limits of tea land grants in Assam generally and have discussed it with Lieut.-Colonel Herbert, Deputy Commissioner of Lakhimpur. It is now with Mr. Judd for his final criticism, after which it will be submitted to Government.

Experimental Detail Survey of the Talap Tea Garden.

21. With a view to finding the probable cost of making a detailed survey of tea lands of varying kinds, I caused the Talap garden to be surveyed, because it contains a considerable variety of lands and several kinds of grants.

The garden includes the following grants:—No. 35N.R., No. 98F.S., *pattas* 1 to 6 and 12 adjoining 98F.S., 21N.R., 51N.R., application number 250; applications numbers 471, 472, special; decennial leases 21 and 22 to the north of 21N.R., and certain *raiyati* lands. In most cases, where grant maps were forthcoming, it has been found very difficult indeed to get a proper comparison between the original grant maps and the lands now held.

22. The scale used was 8 miles to the inch, but I think that, as a rule, the 16-inch scale would be the most convenient to use.

23. It was found that 8 annas an acre should cover the total cost for any kind of work of this nature and at that price the planter would get a much better set of maps and plans than are seen usually nowadays. This experiment emphasizes the great profits that must be made by private surveyors in Assam, whose prices for detail work rise to three rupees per acre.

Dehing and Jaipur Forest Reserves, Lakhimpur District.

24. During the year an examination of the 4″ Revenue Survey and published 1″ maps covering these areas was made to see how far they could be used for forest purposes. A certain amount of desultory work was done in this connection, as it was proposed to make a detailed survey of the Jaipur Reserve. I found the old maps not sufficiently reliable nor in full enough detail to be of any use, and, seeing that the attempt at a detail survey as originally proposed would be likely to be a failure without trained forest topographers, I closed the work after satisfying myself on the spot that it could not succeed.

25. It is now proposed that the Superintendent, Eastern Circle, Survey of India, should take up new detail surveys of these areas.

DISTRICT GOALPARA.

Bhutan-Goalpara Boundary.

26. By the orders of the Government of India conveyed in letter No. 7106E.B., dated Simla, the 13th September 1911, to the Eastern Bengal and Assam Government, this work was taken up at the end of November 1911. The boundary was to be relaid by O'Donel's maps of 1867-68, and it lies between pillars 50 and 78 of O'Donel's survey.

27. During the season a theodolite traverse was run from end to end of the boundary, following it where it was known, and keeping as close to it as possible where it was not known. This traverse has been set up, and it will be the basis of the relaying next season.

28. It is unnecessary to report in detail this year, as a separate report on the whole operations will be published in due course.

29. Great physical difficulties were encountered and the staff was subjected to much hardship. This was cheerfully borne by all.

Parganas / Duars Boundary.

30. In 1910-11 a traverse was run right across the district following the approximate boundary between the temporary and permanently settled portions of the district. There were few points whose geographical values could be obtained and the ground passed over was rough, swampy and inhospitable. The result was, as reported last year, that the chaining of this traverse of about 120 miles in length did not prove and the work had to be revised this year. The revision took the whole field season, but resulted in all errors being successfully located.

We were ready by April 1912 to start relaying the actual boundary between Bijni and Sidli Duars and pargana Khuntaghat, but in the absence of a definite acceptance by Government of MacDonald's line of 1874-75 or any other specified survey, the work was closed. I am still awaiting a definite pronouncement on this point, and when it is received the relaying will be commenced. It will take two to three seasons more to complete the whole boundary.

31. At the present stage it is unnecessary to report in detail upon the work so far done.

Relaying the boundary between the Guma Duar and Ghurla Pargana.

32. A portion of the boundary referred to in paragraph 30 was actually relayed, and it lies between the Guma Duar and the Ghurla pargana. The boundary is that indicated by Godfrey in his decision of 1883.

Godfrey's decision was backed by a badly made map, and the Deputy Commissioner has agreed that O'Donel's work of 1867—69 was to be accepted as the interpretation of Godfrey's intention. Therefore the boundary has been relayed from O'Donel's maps.

33. In all 22 iron posts have been embedded, and their positions checked by Mr. O. E. C. Judd, Extra Assistant Superintendent, who was in executive charge of No. 4 Party of my Department.

Goalpara / Chat Lokutia (Cooch Behar) Boundary.

34. The orders of the Board of Revenue were that the Revenue Survey boundary of Chat Lokutia (a "chit" of Cooch Behar falling inside Goalpara), by the survey of 1867-68, was to be relayed and the necessary traverse work, as a basis for the relaying, was carried out during the season. No actual relaying, however, was done, because in the meantime the Cooch Behar authorities challenged the decision of the Board of Revenue as to what the correct boundary was. The matter has since been discussed and the relaying will be completed in the coming field season.

35. The case is an interesting one in that the boundaries on the original Revenue Survey map have been altered since that survey. The alterations are based upon Beckett's award of 1873, which appears to have been accepted by both parties. Such corrections are of comparatively rare occurrence, and, so far as I know, are not met with often in Assam, excepting in certain portions of the Sylhet district.

Relaying and demarcating the boundaries of Adhardiya and Srijangram, District Goalpara.

36. This work is in continuation of that dealt with in paragraph 69 of my Report for 1909-10. No work was done in 1910-11, as arbitration continued throughout that year.

37. By November 1911 we were able to proceed with the case, and from the results of the arbitration, an area of 20,692·52 acres, which represented land held rent free from the Bijni Raj (Khuntaghat pargana) by the Gauripur Raj, was permanently demarcated with 17 masonry marks and 264 iron posts.

38. It now remains for Government to accept the exterior boundaries relaid or to reject them. Correspondence is going on on this subject, because the northern boundary is coterminous with the Duars of Goalpara, and two portions of the eastern boundary touch on Kamrup district. This aspect of the case will be reported upon next year.

Goalpara-Garo Hills Boundary.

39. Between pillars 10 and 11 of the demarcation by Bose in 1906-07 it was found that certain marks were out of position; these marks had been put down by the two Deputy Commissioners, aided by an inefficient survey staff, after Bose's demarcation. This is one explanation; another is that the Garos surreptitiously moved some of the marks after the departure of the Government officials.

40. My orders were to check the marks and dismantle those that fell off the boundary shown on the compromise maps that had already been signed by the parties.

41. On the ground it was found that the Garos had already adopted a new boundary and such marks as were found upon it were dismantled.

The marks between main pillars 10 and 11 were then checked, and it was found that, although pillars and mounds were found to be placed accurately on the boundary, their positions on that boundary did not agree with the positions assigned to them on the compromise maps.

As I had no orders to deal with this unexpected situation, I reported it to the Commissioner and the case is now about to be dealt with by the Government.

42. It will probably be found that the state of affairs existing between (MacDonald's and Beckett's) pillars 10 and 11 occurs elsewhere along the boundary. I fear that until means are taken to keep the jungle portion of this boundary clear always, there will be constant trouble and friction along it.

Traverse for Extension Surveys, District Goalpara.

43. A considerable area of cultivation having been surveyed cadastrally upon plane table traverses, an attempt was made to provide theodolite plots for these areas; the work is in connection with the scheme mentioned in paragraph 4(*b*) of this Report.

44. An area of 64 square miles was traversed and the plots have been sent to the Deputy Commissioner.

45. Five selected mandals have been trained during the year in Shillong, and the Deputy Commissioner now has a staff which can traverse future extensions, the computing and plotting being done by my Department.

Relaying the boundaries of the villages of Taria Pargana, District Goalpara.

46. The work done during the season completed that reported upon by me in paragraph 128, *et seq.*, of my last Report.

47. One hundred and ninety-nine concrete pillars and 1,192 angle irons have been embedded, in addition to 21 reference pillars, in the villages of Bamandanga, Jhoun Kati, Sundudda, Kulsi-Kuri Kedar and Bahar Kedar. The positions of these were checked by Mr. H. F. Berkeley, Deputy Collector (of my staff).

48. The fair mapping is nearing completion, and after it is done the necessary copies of maps and papers will be sent to the Deputy Commissioner and to the different parties.

Goalpara-Kamrup Boundary (pargana Habraghat).

49. In letter No. 724S. & S., dated the 22nd March 1911, the Board of Revenue, Eastern Bengal and Assam, accepted MacDonald's boundary of the 1873-75 survey as the possession boundary between the Bijni Raj (Habraghat pargana) and the coterminous district of Kamrup.

50. In this year it was expected that the boundary, as temporarily demarcated in 1909-10, would be marked permanently by the Public Works Department, and all that remained for my Department to do was to check the positions of the permanent marks.

51. The Public Works Department were unable to embed the marks, and therefore the completion of this work must be held over until the permanent marks have been put down. It is hoped that this will be in the approaching field season.

52. There is one difficulty in this boundary, because the Dhantola *lakhiraj* (Gauripur Raj) will, by the new boundary, fall partly in Goalpara and partly in Kamrup. This matter is under consideration, but it would not appear that it offers any serious difficulty.

Disputed Tea Grant Boundaries, Sibsagar District.

53. At the request of the Commissioner, Assam Valley Districts, a preliminary traverse survey was made covering the tea estates of Goranga, Wokha and Ghiladhari. These contain twelve grants under various leases, some of which were surveyed by the Revenue Survey of 1877-78. The claims of the three estates were surveyed in skeleton in 1901-02 by the Provincial Survey Detachment. Disputes have now arisen between Government and the grantees as to what lands should be held by the latter according to the original grant maps. Present claims have now been surveyed and a combined map is under preparation showing (*a*) these claims, (*b*) grants as they existed in 1877-78, and (*c*) as pointed out in 1901-02 and according to original grant maps.

When the comparative map is complete, it will be sent to the Commissioner, Assam Valley Districts, for decision as to which boundaries have to be upheld and demarcated.

Khasi and Jaintia Hills District and Sylhet Boundary (Pillar 35 to two miles west of pillar 37).

54. This portion of the boundary was wrongly surveyed by the Revenue Survey Party (1860—66), Sylhet, because the Khasis would not permit the surveyors to enter what they presumed to be Khasi territory. The boundary was eventually decided by Jones and Clarke as Boundary Commissioners, and the Revenue Survey maps corrected in red; the boundary now relaid is the corrected red line shown on Davey's Revenue Survey maps of Sylhet.

55. It now transpires that there are several other portions of the boundary in dispute, and since it is inadvisable for reasons of economy to continue relaying limited portions, I have obtained the orders of Government to relay the whole boundary from Tharia Ghat to the quadri-junction of Sylhet, Khasi and Jaintia Hills, Garo Hills and Mymensingh. This work will be taken up next year.

Khasi and Jaintia Hills and Sylhet Boundary (Pillars 14 to 17).

56. This portion of the boundary was relaid by my Department in 1910-11 (*vide* paragraph 116 of my last Report). After this demarcation the permanent marks were put down by the District staff, and all that was done in the year under report was to check the positions of those permanent marks.

57. Pillars 14, 15 and 17 had been correctly placed, but No. 16 was found to be about two chains out of position. It is being demolished and correctly placed by the District staff.

CHAPTER III.

Shillong Drawing Office.

58. The work was done together with that of the Eastern Bengal districts and Mr. A. B. Smart held charge throughout the year.

Reproduction Section.

59. The outturn of village map reproduction for the year for Assam is given below :—

Districts.	Number of villages.	Number of sheets.	Copies printed.
Sylhet	51	70	5,520
Goalpara	379	379	1,900
Sibsagar	13	13	2,810
Lakhimpur	790	870	25,393
Cachar	3	3	30
Kamrup	149	196	5,979
Total ...	1,385	1,531	41,632

Of the 1,531 sheets referred to above, 995 were received for reproduction during the year; the balance was carried forward from last year.

In addition a large amount of miscellaneous work was done, but I cannot give separate figures for Assam, as for the first part of the year the province of Eastern Bengal and Assam existed.

Book debits amounting to Rs. 8,328-2-11 were realised from other Departments etc., during the year for Eastern Bengal and Assam.

Copying Section.

60. Here again it is not possible to give separate figures for the issue of copies as separate accounts were not kept for Assam until 1st April 1912.

The total cost of the section was Rs. 1,695-9-1, and the copies issued realized Rs. 2,625-10-6. The former sum, however, excludes certain expenditure which is really debitable to the section, caused by the temporary transfer of staff from other sections of the office. The real cost should be about Rs. 3,400, but now that enhanced charges are allowed (*vide* Board of Revenue, Eastern Bengal and Assam's letter No. 755S.B., dated the 27th March 1912) future years will show a profit to Government in this section. The above figures cover both Eastern Bengal and Assam work.

Thana Maps.

61. No Thana maps were compiled for Assam, as the orders for their compilation were received late in the year.

General Section.

62. The machinery received last year has been erected without any outside help. This reflects great credit upon Mr. A. B. Smart and his Indian staff.

My orders were not to erect the machinery, but finding that it was impossible to keep it from rusting, I was compelled to order its erection.

Record Section.

63. At the beginning of the year under report there were 10,982 original cadastral maps in the Record Section. During the year the following sixteen-inch sheets were racked :—

Lakhimpur	343
Kamrup	212
Sibsagar	23
Sylhet	1
Total ...	579 sheets.

CHAPTER IV.

Service of Officers.

64. Captain A. H. Gwyn, I.A., Officiating Deputy Superintendent, Survey of India, joined me during this year. He has taken a great interest in the work and, with further experience, will be a valuable officer for local work.

65. Mr. T. Shaw, my Personal Assistant, has rendered me invaluable help in many ways. I specially recommend his services to the notice of the Chief Commissioner.

66. Mr. A. B. Smart, in charge of the Drawing Office, has, as usual, done excellent service.

67. Mr. O. E C. Judd, in charge of No. 4 Party, has worked very hard and thoroughly in the intricate and miscellaneous work allotted to him. He is to stay in Assam, and already has gained experience which should prove valuable to the Administration.

68. Rai Sahib Kundan Lall, Supervisor, has maintained his high reputation. He received his title during the year for long, good and loyal service to Government.

69. Babu Damodar Rao, my Head Accountant, has not spared himself and has done valuable work. He was specially selected to receive the Delhi Durbar Medal of 1912 during this year for good service and loyalty. His services in connection with the Departmental Co-operative Bank deserve special mention.

70. The other officers worked well, but more than one of them lacks energy.

71. The Chief Commissioner presented a silver watch, suitably inscribed, to Tindal Abad for gallantry in saving two lives in the Dehing river.

72. The rewards given during the year have stimulated the whole establishment and have helped me greatly.

73. In conclusion, I wish to thank all those Officers of the Land Records Department and in the Civil Service and Assam Commission with whom I have been associated, for the cordial help that I have received during the year.

F. C. HIRST, *Captain, I.A.,*

Director of Surveys, Bengal and Assam.

FROM

J. McSWINEY, Esq., M.A., I.C.S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE, ASSAM,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER

OF ASSAM.

Dated Shillong, the 15th November 1912.

SIR,

I HAVE the honour to submit herewith the Annual Report on the Department of Land Records for the year 1st October 1911 to 30th September 1912. I have kept to the general lines of the Report for Eastern Bengal and Assam, but have inserted a few extra statements, similar to those which used to be shown in the previous Assam Reports, but were omitted after 1906, because they showed too much detail for Assam in the Eastern Bengal and Assam Report.

The Report is due on the 15th November: its completion has been seriously delayed by the non-arrival of statements from Sylhet in spite of many reminders by letter and telegraph, and I am now sending it without the Sylhet figures, which may be inserted in proof. The figures of several other districts, notably Darrang, were received incomplete. I hope that the Hon'ble the Chief Commissioner will issue strict orders with regard to the punctual submission of details by Deputy Commissioners in future.

I have the honour to be,

SIR,

Your most obedient Servant,

J. McSWINEY,

Director of Land Records and Agriculture, Assam.

SETTLEMENT (LAND RECORDS) REPORT.

CONTENTS.

PART I.

	Paras
Resettlement	1—3

PART II.

Land Records	4—13

PART III.

Miscellaneous	14—15
Appendices	

REPORT

ON THE

DEPARTMENT OF LAND RECORDS IN ASSAM

FOR THE YEAR ENDING THE

30th September 1912.

PART I.—RESETTLEMENT.

1. As in last year, the resettlement of Lakhimpur district, so far as land held for ordinary cultivation is concerned, was the most important work. The district was divided into two blocks A and B, and though resettlement proceedings were started in November 1908, the two group assessment reports of Block A were not submitted until the recess of 1911, probably on account of the change of Settlement Officer in November 1910. Orders on these two reports were passed by the Government of Eastern Bengal and Assam in November last, when it was found that the directions originally issued by the Board of Revenue regarding the new procedure, revenue attestation, were defective in that it was not specifically laid down that the provisional rates entered in the *kacha pattas* were liable to modification by superior authority: the result was that the rates eventually sanctioned were not, perhaps, as high as they might have been. The changes of provincial boundaries tended to delay the submission of the assessment report of Block B, and on taking over charge of the Assam Department in April last, I was given to understand that the resettlement would drag on beyond the sanctioned date, 30th June 1912. An early visit to Dibrugarh convinced me that there would be no delay on the part of Mr. Mackenzie, the Settlement Officer, and the remaining assessment reports were submitted in May and orders were passed in time to admit of the closing of the Settlement Office and the abolition of the extra staff by the 30th June. The final report was drafted by Mr. Mackenzie in May and June and reached me in the end of July: it has since been submitted to the Chief Commissioner.

Lakhimpur.

The financial result of the resettlement was an increase of 11·43 per cent. in the revenue assessed on ordinary cultivation in the district. The reasons for not attaining the forecast made in 1905 have been detailed in the final report: briefly the cause was the new procedure whereby the Settlement Officer had first to submit preliminary rough notes on each mauza and proposals for its future assessment for the approval of the Commissioner and the Director of Land Records and then to base on these approved mauza rates his village proposals. This procedure, as the Settlement Officer points out, was practically a devolution of the powers of the Board of Revenue and had in my opinion the further defect of tying the Settlement Officer's hands before either he or the authorities who bound him had a sufficiently intimate knowledge of the local conditions to warrant definite conclusions. I hope that in future the Settlement Officer will be left to submit his proposals after he has obtained detailed information and so permit those responsible for criticising them an opportunity of knowing all the facts. The latter procedure was followed in all the other districts and I cannot understand why it was altered in Lakhimpur except as a sign of want of confidence in the officer in charge.

The final *pattas* were to be distributed during the recess and the early part of this cold weather, and objections, which cannot be many after revenue attestation, will be disposed of by the Deputy Commissioner after local investigation by the Circle Officers. The new maps were all sent to the Drawing Office by the end of June and their reproductions should be in the hands of the Land Records staff by now.

The gross cost of the settlement was Rs. 2,04,626 and nett cost Rs. 1,94,557: the area covered by the proceedings amounted to 709 square miles, so that the cost works out at under Rs. 275 per square mile: this does not include the cost of the traverse survey of a large portion of the area or that of the permanent Land Records staff. The expenditure was increased by the debit to Settlement of the pay of the Circle Officers, who had been given Settlement allowances, though they would have been employed whether there was a resettlement or not.

The resettlement of Dibrugarh town was taken up in March last and was continued under the Deputy Commissioner after the departure of the Settlement Officer. The preliminary report has since been submitted to the Chief Commissioner for orders.

Sylhet.

2. In Sylhet an area of 31½ square miles, which was left over from the last Ilam Settlement, has been in hand since February 1908. The orders of the Board of Revenue were that it was to be completed by the ordinary district staff of patwaris in addition to their own work. The land concerned is scattered in small patches all over the district and includes 2,450 estates held as *ilam*, *nankar patwarigiri*, or *charbhorat*, averaging 8 acres each in area: in three subdivisions, Sadr, Sunamganj and Habiganj, out of 1,327 estates there are only 103 over 16 acres in extent. The fact that they are both small and scattered is no doubt partly responsible for the great delay in the completion of the work, but the main cause seems to be the avoidance of a special staff. Since my inspection of the recess work in August last a small special staff has been sanctioned, and I hope that the preliminary rate report will be sent up in the next recess and the work completed by the end of the following field season.

Two important questions in connection with this settlement, *viz.*, that of the right of the holders of *nankar patwarigiri* land to *akrajat* and *malikana* and that of the form of *patta*, were submitted by the Deputy Commissioner, Sylhet, for orders in August 1911, but were left over for the Chief Commissioner's decision by the late Board of Revenue. The former problem has been submitted by me for orders, and the latter will be taken up at once on my next visit to Sylhet.

Babu Tarini Charan Nandi, Extra Assistant Commissioner, has been in charge of the work from the beginning in addition to his other duties, of which the Commissioner has now agreed to relieve him in order to expedite the work.

The question of the resettlement of Jaintia Parganas, which is due in 1913, was discussed during the year, and the Chief Commissioner decided to depute Mr. W. L. Scott, I.C.S., to consider whether there should be a revision of the assessment there and in Cachar: he has taken up the work since the close of the year under report and his report will probably be submitted in six months.

Cachar.

3. In Cachar the leases of 57 *Jangalburi* mahals covering an area of a little over 4 square miles fell in, and they were resettled by the Deputy Commissioner with the help of the ordinary Land Records staff: the resulting revenue showed an increase of 25·69 per cent., though there was a slight decrease in the surveyed area. Progressive enhancements on the lines laid down for these estates were allowed where necessary. The settlement of these estates will terminate in 1915, when the general settlement of the district expires.

Mr. W. L. Scott will report before next rains on the subject of undertaking a revision of the assessment of the whole district.

PART II.—Land Records.

Mandals and Patwaris.

4. The sanctioned strength of mandals and patwaris for the province was 1,172 on the 30th September 1912, *viz.*, 237 in the 1st grade, 698 in the 2nd grade, and 237 in the 3rd grade. During the year under report 19 mandals, 1 in Kamrup, 2 in Sibsagar and 16 in Lakhimpur, were added to the sanctioned scale. The number actually entertained was 1,170. The inspections made during the year disclosed the fact that there are still a number of non-resident mandals or patwaris employed in the province. Strenuous efforts will now be made to give effect to rule 5 of the Land Records Manual and to securing resident mandals for all the lots. Figures showing the actual number of non-resident mandals and patwaris will be inserted in the next report.

Supervisor Kánungos.

5. The sanctioned number of Supervisor Kanungos on the 30th September 1912 was 46 in the 1st grade and 25 in the 2nd grade, besides the Mauzadar-Kanungo in the Eastern Duars, who is paid at Rs. 25 per month for Land Records work. The only new appointment sanctioned during the year was the substitution of a permanent post for the temporary Supervisor Kanungo entertained in the Lakhimpur settlement for the last few years. General remarks on the working of the Land Records establishment of the province will be found in paragraph 10.

6. During the year, in all 731 mandals and patwaris were fined a sum of Rs. 1,767-12-4. Details of this are given below.—

District.	Total number of recorders fined.	Fines imposed on recorders for—				Fines subsequently remitted.	Net amount of fines imposed.
		Absence without leave.	Delay in submitting papers.	Other causes.	Total.		
1	2	3	4	5	6	7	8
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Cachar	55	0 8 0	15 0 0	6 8 0	22 0 0	...	22 0 0
Sylhet	4	5 0 0	2 0 0	...	7 0 0	...	7 0 0
Goalpara	5	...	11 0 0	5 0 0	16 0 0	...	16 0 0
Kamrup	616	9 8 0	212 12 0	460 1 9	682 5 9	4 0 0	678 5 9
Darrang	224	186 13 8	92 8 0	149 4 0	428 9 8	4 13 6	423 12 2
Nowgong	49	8 12 0	49 8 0	6 0 0	64 4 0	...	64 4 0
Sibsagar	110	262 1 2	67 8 0	75 0 0	404 9 2	2 8 0	402 1 2
Lakhimpur	73	13 3 3	107 10 0	37 12 0	158 9 3	10 0 0	148 9 3
Garo Hills	11	...	...	5 12 0	5 12 0	...	5 12 0
Total	1,147	485 14 1	557 14 0	745 5 9	1,789 1 10	21 5 6	1,767 12 4

It will be seen that the average of the fines works out to Re. 1-8-8 per recorder.

In four cases the field allowances of Supervisor Kanungos were reduced or withdrawn for bad work. I find that Deputy Commissioners are inclined to overlook the fact that field allowances are intended for good work and should certainly not be given to men whose record is not up to the ordinary standard. The only method, short of dismissal or reduction, of ensuring that action is taken by Supervisor Kanungos on the orders of the Land Records Assistant is to stop the field allowances of those whose work is defective, and I intend to follow this procedure strictly. Deputy Commissioners might make certain that the Supervisor Kanungos, whom they recommend under rule 121 of the Land Records Manual, have been passed as good by the Land Records Assistant before sending up their names.

The amounts of travelling allowances drawn by Supervisor Kanungos and mandals were Rs. 892-15-6 and Rs. 1,211-1-6, respectively. These amounts, though not very large, are highly appreciated by the recorders. The grant of travelling allowance has further successfully checked the practice of unscrupulously charging large sums for conveyance of records, etc., by the recorders in the Surma Valley.

7. The work done by each of the Circle Officers is briefly shown in Appendix B.

Sub-Deputy Collectors.

The note by the Land Records Assistant embodied in paragraph 10 of this Report shows the condition of the records in the circles inspected by him.

It is clear from the statement that the work done by Sub-Deputy Collectors in Cachar and Jaintia Parganas is inadequate. I found in my rains tour a tendency amongst Sub-Deputy Collectors to regard the Land Records Manual as not particularly appropriate for the Surma Valley. In one instance I found that a Sub-Deputy Collector had obtained some years ago the official approval of an acting Commissioner to a procedure which was not alone a flat disobedience of the rules, but a most dangerous evasion of work on the part of the Sub-Deputy Collector. The argument that the Sub-Deputy Collectors who are also Tahsildars have not time to pay overmuch attention to Land Records will not hold water, because their charges are small: the fact is that they object to field work and the only remedy is to insist on their doing their duty in this respect. I have warned all these officers and am now going to bring each of them into the mofassil myself so that I may have personal

experience of their work. It is hardly necessary to say that, unless the Deputy Commissioners and Subdivisional Officers insist on proper field work, no improvement can be expected.

In the Assam Valley the work done by Srijuts Janaki Nath Das, Surjya Kanta Barua and Kamal Chandra Kakati stands out in glaring contrast to that of Srijut Hari Prasad Das, Babu Dwarika Nath Chaudhuri (now in Sylhet) and Srijut Annada Charan Bhattacharji. I do not wish to examine all the figures in detail now, because such a return has not been shown for many years.

I hope that a perusal of the statement and the contrast between the outturn of those who tried to do their duty and those who shirked it, will open the eyes of Deputy Commissioners, Subdivisional Officers and Sub-Deputy Collectors. I propose to include this statement in future reports: its omission from the Eastern Bengal and Assam reports could hardly be avoided, but there is no reason why we should not revert to the old Assam practice.

Progress of Survey.

8. In Appendix C will be found a statement showing how far the various districts have already been surveyed. On 30th September 1912, the maps and records were either complete or under preparation in 23·48 per cent. of the area. These figures do not include the area for which only a traverse survey had been carried out. In the total area large stretches of waste land have been included and for these areas detailed maps and detailed records-of-rights are still unnecessary. The outstanding area practically consists of 6,353 square miles of permanently-settled estates in Goalpara and Sylhet. The question of having a survey and record-of-rights is more pressing in the latter district than in the former, and the Chief Commissioner has decided that an attempt should be made to form a sound estimate of its cost by surveying and preparing a record-of-rights in one pargana or smaller area. The selection of a suitable area is now under consideration.

Appendix D gives figures showing the progress of extension survey by local agency. Extension surveys were carried out in six districts, but to a very limited extent, the actual area surveyed being 27 square miles only. This work will, I hope, be taken up on much more extensive scale this year in Goalpara, Kamrup and Nowgong; but we have to depend in this matter on the provision of funds in the budget of the Director of Surveys for traverse work, and I understand that at present it is not impossible that his programme for the coming year will be curtailed.

Maintenance of the record.

9. The records continued as usual to be maintained by the mandals and patwaris under the supervision of Supervisor Kanungos and Circle Sub-Deputy Collectors. The statistics of mutations are given in Appendix C. The percentage of mutations to *pattas* is much larger in the Surma Valley than in the Assam Valley. This is mainly due to the existence of *ijmali pattas* in the Surma Valley. As mentioned in paragraph 24 of the Eastern Bengal and Assam Report for 1910-11, stringent orders were issued to check the growing tendency on the part of Circle Officers to do "local" verification of mutations in the arm-chair of a rest-house. The Board of Revenue, Eastern Bengal and Assam, prescribed a form of Abstract Diary for Sub-Deputy Collectors in their letter No. 72S.S.-A., dated the 3rd September 1910; column 17 of the form refers to summary mutations done "elsewhere than in the village". This column seems to be both incorrect and misleading, and I found in the course of my rains tour that its heading was being interpreted as an authority for disposing of such mutations at a centre. I am now in correspondence with the Commissioner, Assam Valley Districts, on the subject with a view to the omission of this column.

State of Land Records.

10. I inspected recess Land Records work in the Sadr subdivisions of Kamrup, Cachar and Sylhet during the rains. I hope to have inspected work in the field in every circle before the next hot weather. The Director of Land Records, Eastern Bengal and Assam, made no inspections, but the Land Records Assistant was on tour for 290 days and examined the records of 476 mandals and patwaris distributed over 19 circles and 28 sub-circles. The results of his inspections are embodied in the following note drawn up by him. I understand from him, and I believe from my own inspections, that the time of the Sub-Deputy Collectors is unfairly occupied with petty miscellaneous enquiries, which could be entrusted to Mauzadars and other officers: the prompt discharge of this work makes a favourable impression on the Deputy Commissioner and ensures from him a better recommendation than the ordinary Land Records work. The fact is that the Revenue Offices are sure of more speedy

outturns when the Circle Officers are entrusted with miscellaneous enquiries and the latter are sometimes overburdened with work which not alone interferes with their legitimate duties, but tends to make them into the sole and only *hakims* outside the headquarters, with the result that the position of Mauzadars is deteriorating.

Note by the Assistant Director of Land Records.

I was in charge throughout the whole year and spent 290 days on tour. I examined the records of 476 mandals distributed in 19 circles and 28 sub-circles and ran 9·79 miles of check lines. From what I saw I am of opinion that Land Records work is still suffering from want of adequate supervision on the part of the supervising officers. In spite of the criticisms made in last year's report the records of very few circles have shown any appreciable improvement. I have again found, during the year under report, a large number of mistakes in area calculation and land classification in the majority of the circles inspected by me. I do not believe that the records are ever systematically and carefully checked by the Circle Officers or the Supervisor Kanungos, even when I leave special instructions to do so. If they do so at all, their examination must be of a very superficial nature, as is proved by the numerous mistakes discovered during my recent inspections as detailed below.

The results are due entirely to the neglect of the staff to study and carry out the provisions of the Land Records Manual and other executive orders issued under it from time to time. The comparison of the faired copies of the *chithas* by mandals and Supervisor Kanungos and the verification of *faut-ferar* and *jotrahin dags* by the Sub-Deputy Collector are some of the important duties which are often neglected and the importance of which does not seem to be realized. In certain circles I noticed that the required percentage of the *faut-ferar* and *jotrahin dags* had not been verified by the Sub-Deputy Collector and that many mandals' lots were not visited by him.

Another important matter to which very little attention is paid is the assessment of land in areas which remained outside the scope of resettlement operations. In almost all the circles where such areas exist the assessment of land revenue was found to be made in a way quite contrary to the existing orders on the subject. There are separate orders relating to each of such areas, but no one troubles to study them and explain them to the mandals.

From what I have seen I am inclined to think that the process of converting annual land to periodic is sometimes carried too far. Even *faringati* land in fluctuating villages in the *chapari* mauzas is very often settled on periodic lease, and such leases are frequently issued without previously checking the area and classification of the fields, with the result that it afterwards becomes necessary to correct not only the records, but also the leases issued.

The results of my test measurements were on the whole fairly satisfactory except in Nowgong sub-circle, where bad survey mistakes were discovered. In certain circles the inspection of crops during the mandal's spring tour was neglected and a large number of survey marks left unvisited.

As to field mutations, the Sub-Deputy Collector should not confine his attention only to the entries made by the mandal. He should also make enquiries in the village whether the mandal's entries are complete. One morning I took the opportunity of going out to a place about 3 miles from Nowgong town and called out from the *jamabandi* the names of the *pattadars* of two villages on the spot, and I was surprised to find that no less than 39 *pattas* were standing in the names of deceased persons, some having been dead several years, and yet the mandal had not entered in the *chitha* the names of the successors for mutation.

Dibrugarh Circle in charge of Babu Guru Charan De Chaudhuri :—

Lakhimpur.

The records had been made over by the Settlement Officer to the district staff in April, only two months before my inspection. In Dibrugarh sub-circle the system of assessing new cultivation within classified areas was not explained to the mandals. They were, accordingly, classifying new *dags* at their discretion according to the crops grown, as was the practice before the resettlement.

In the North Bank sub-circle, new lands taken up in the unsurveyed areas (which remained outside the scope of resettlement operations) were being wrongly assessed owing to the orders in the group report on the subject not having been explained to the mandals.

Ranganadi and Subansiri Circles in charge of Babu Pramod Chandra Roy and Maulvi Nurul Hussain Hazarika, respectively :—

Records had been made over to the district staff only about a month before my inspection. They therefore contained very little work for examination. I devoted my time mostly in explaining the Land Records Rules to the mandals and the Supervisor Kanungos.

Kamargaon Circle in charge of Srijut Achyutananda Pathak :—

Sibsagar.

I ran 89·59 chains of pertal : survey mistakes in *dags* recently made periodic were found. Mistakes in area calculation and land classification were also found. Proper attention was not paid to the maintenance of survey marks. The returns of field work by the Sub-Deputy Collector and Supervisor Kanungos were satisfactory and the records showed some improvement since my visit of last year.

Golaghat Circle in charge of Babu Dwarika Nath Chaudhuri :—

In both sub-circles the faired *chithas* were not properly compared. Many mistakes in area calculation and land classification were discovered and periodic leases were issued for *dags* containing such mistakes. The records require careful check.

In the northern sub-circle land in the fluctuating areas was wrongly assessed owing to the rules on the subject not having been explained to the Supervisor Kanungo and mandals by the

Sub-Deputy Collector and survey marks in the fluctuating area require more attention than what appeared to have been paid.

Moriani Circle in charge of Maulvi Nurul Hussain Hazarika for most of the year and now of Srijut Bhola Nath Kakati :—

The records were carefully checked in the south-western sub-circle after my previous inspection and no serious mistakes were discovered. The assessment of land in the unsurveyed villages was wrongly made, *i.e.*, not in accordance with the orders in the group report. In the eastern sub-circle the Supervisor Kanungo neglected to compare the faired *chithas* in spite of my warning during my previous inspection and a few mistakes in area calculation and land classification were found. The Sub-Deputy Collector's supervision was satisfactory.

Nazira Circle in charge successively of Babu Sarat Chandra Lahiri (now in Bengal), Srijut Surja Kanta Barua and Annada Charan Bhattacharjee :—

The records of Nazira sub-circle were in a somewhat better condition than before. My instructions to check the records during my previous inspection were neglected and many mistakes in area calculation and land classification were again discovered. Mistakes pointed out in my previous inspection were not corrected in all cases and periodic leases were subsequently issued for the *dags* found by me to be wrong in area and classification. An order of the Board to correct the classification of certain fields in a village were not carried out, though the orders had been received long ago. The old Supervisor Kanungo has been removed.

In the eastern sub-circle my instructions to check the records were neglected, with the result that I again found a lot of serious mistakes in the records, which require careful check. Villages surveyed in extension in 1903 and subsequently have not yet been checked and passed by the Sub-Deputy Collector, nor have assessment proposals been submitted for orders.

Mangaldai Circle in charge of Srijut Uma Charan Gohain :—

Darrang. The inspection of hot-weather crops was badly neglected by several mandals.

The *chitha* totals of the different kinds of land in certain villages did not tally with those in the mandal's abstract, and the latter register, Parts II and III, had not been written up since the close of the resettlement. The examination of *chitha* entries was insufficient only 1,222 entries having been tested during the whole year in Patharughat and 1,719 in Mangaldai sub-circle. All the mandals' lots in the former sub-circle were visited both by Supervisor Kanungo and the Sub-Deputy Collector.

A large number of mistakes in area calculation and land classification was discovered, and in Mangaldai sub-circle periodic leases were issued for *dags* containing such mistakes, with the result that correction was necessary not only of the records, but also the leases issued to the raiyats. The records contained many more mistakes and require careful check. Field mutation was well up to date.

Behali Circle in charge of Srijut Kamal Chandra Kakati :—

I ran 199·47 chains of pertal : the results were only middling, errors being discovered even in *dags* which had been recently made periodic in no less than three mandals' lots. Due attention was not paid to inspection of hot-weather crops. The condition of the survey marks in several lots was not good.

A large number of mistakes in area calculation and land classification was discovered : periodic leases were issued for *dags* containing mistakes of the above nature. Both the records and the *pattas* issued require correction.

The Sub-Deputy Collector and Supervisor Kanungo visited all the mandals' lots and tested sufficiently *istafa* and *faut-ferar dags*.

Tezpur Circle in charge of Rai Sahib Betharam Sarma :—

The Supervisor Kanungo of Tezpur sub-circle neglected to compare the faired *chithas* of many villages : no attention was paid to inspection of hot-weather crops in spite of my warning during my previous year's inspection. Mutation work was kept up to date ; mistakes in posting mutation corrections were found, though they had been checked by the Registrar Kanungo. The Supervisor Kanungo is indifferent to his work and slack in supervision and should be removed. On the other hand, the Supervisor Kanungo of Borgaon sub-circle was very satisfactory and the records were in very good condition.

Silghat Circle in charge of Srijut Jagannath Buzar Barua :—

Nowgong. Though my inspection was made in February last, the inspection notes have not yet been received from the Deputy Commissioner.

In Silghat sub-circle the records were found in an unsatisfactory state and a very large number of mistakes in area calculation and land classification was discovered. Thorough and systematic check is required. No action was taken to carry out the provisions of revised rule 202 of the Land Records Manual. Hence, with the progress of mutation work, the number of *ijmali pattas* is being swelled year after year, which it was the object of the rule to minimise. Classification and assessment of land in the areas, which were left unsurveyed and unclassed during the resettlement, were carried out wrongly. I ran 204·94 chains of check lines and found large discrepancies in one lot, besides an unmapped and unassessed plot of land (1 bigha 3 kathas). The amount of check lines run by the Supervisor Kanungo was far below the prescribed minimum. Otherwise his field work under other heads was satisfactory. The Sub-Deputy Collector visited all the mandals' lots, but the percentage of the *faut-ferar* and *fotrahia dags* verified by him was far below the prescribed minimum and practically amounts to a neglect of duty. In Nowgong sub-circle, the records were in a better state than last year. They had been checked after my previous inspection and therefore only a few mistakes were found.

Gauhati Circle in charge of Srijut Bholanath Das :—

Kamrup.

A large number of mistakes in area calculation and land classification was found. Periodic leases were issued and the village map reprinted in many cases without the area and classification of the *dags* having previously been carefully checked. The lease issued will have to be recalled from the raiyats for correction.

Chhaygaon Circle in charge of Srijut Janaki Nath Das :—

A large number of mistakes in area calculation and land classification was discovered, and in Chhaygaon sub-circle periodic leases were issued for wrong *dags*. The records require careful and systematic check and the leases issued require correction. I ran 78·42 chains of *pertal*, but found no serious mistakes. Lands in the fluctuating area were wrongly assessed, the staff being ignorant of the orders on the subject. The field work done was satisfactory. In Chhaygaon sub-circle the sanctioned classification of fields was altered by a mandal after they were resigned and retaken.

Barpeta Circle in charge of Srijut Hari Prasad Das :—

This is a very easy circle, there being only one Supervisor Kanungo and 20 mandals. I ran 106·82 chains of *pertal* and found no serious mistakes. Records were found in fairly good order and the Supervisor Kanungo's work was satisfactory. The Sub-Deputy Collector neglected his field work. Out of 257 villages in the circle he tested field work in only 37, a very small percentage of the *fautferar dags* and none at all of the *jotrahin dags*. It is clear that this officer requires a good deal of rousing.

Bajali Circle in charge successively of Srijuts Annada Charan Bhattacharji and Surjya Kanta Barua :—

Roha sub-circle is one of the heaviest : I examined the records of 18 mandals who had been left out during my previous inspection, and discovered several mistakes in area calculation and land classification in some of the villages surveyed in extension ; in many cases periodic leases had been issued for wrong *dags*. The records require check and the leases issued should be recalled and corrected. The mistakes pointed out by me during my previous inspection had not been corrected. The Supervisor Kanungo's field work was satisfactory. The Sub-Deputy Collector neglected to verify the *jotrahin dags* and visit all the mandals' lots, but field mutation work appeared to have been kept well up to date.

Rangia Circle in charge successively of Babu Sarat Chandra Lahiri and Srijut Hari Prasad Das :—

The records were found in somewhat better condition than last year in sub-circle Rangia, though there is much room for improvement. *Dags* had been converted from annual to periodic and village maps reprinted without the classification having been carefully checked. The periodic *pattas* issued will have to be recalled from the raiyats for correction. The former Sub-Deputy Collector did not check all the *jotrahin dags* as required by the rules. In sub-circle Tambulpur due attention appeared to have been paid to inspection of survey marks, but, in spite of my having discovered many mistakes in area calculation and land classification during my previous inspection, no steps were taken to have the records systematically checked, with the result that I again discovered a large number of mistakes : periodic *pattas* were issued for some of the wrong *dags*. They will have to be recalled for correction. Land in the unsurveyed areas is being wrongly assessed owing to the staff's ignorance of the rules on the subject. The record of Supervisor Kanungo's field work was on the whole satisfactory.

Kamalpur Circle in charge successively of Babu Tanu Singh and Srijut Tarini Charan Chaudhuri :—

The records were not checked in spite of the instructions left during my previous inspection, with the result that I again found a large number of mistakes of a serious nature. More attention was paid to inspection of crops and survey marks than in previous year. The former Sub-Deputy Collector and Supervisor Kanungo were responsible for the neglect to carry out my instructions.

Nalbari Circle in charge of Babu Chandra Kumar Sen Gupta :—

In spite of the instructions left during my previous inspection, no action was taken to check the records carefully and many mistakes were again discovered, including serious errors in area calculation of partitioned *dags* ; periodic *pattas* were issued for wrong *dags* and must be recalled for correction. Mutation work was heavy, but was kept well up to date and the field inspection was satisfactory. The assessment of *basti* land in the fluctuating mauzas is being wrongly made.

I have given the above detailed report, not because I think that it need be repeated every year, but in order that there may be a record of the state of our work as it stood on the reformation of Assam as a separate province. It has been since brought to my notice that the celluloid area squares have become inaccurate, and on the advice of the Mathematical Instrument Office, I am reverting to the somewhat more expensive, but more reliable, talc squares : I am also arranging to supply metal templates to each Sub-Deputy Collector for testing the talc squares during recess. This defect in celluloid squares may be one cause of the large number of mistakes in area calculation. Other causes are no doubt the facts that in all the recent settlements, except Lakhimpur, traces for printing the maps were made on tracing cloth which contracts and expands according to the humidity of the atmosphere, and that the maps were printed in the Secretariat Press, where the men were found damping the sheets in order to ensure a good impression. Since the Drawing Office was established at Shillong, these defects of printing have been removed, and it is hoped that we shall always in future print our maps at either a Drawing Office of our own or in one shared with Bengal.

Inspection of Land Records by district staff.

11. Before 1906-07 Land Records work was fairly extensively inspected by Deputy Commissioners, Subdivisional Officers and Extra Assistant Commissioners of the district staff and the extent of their inspections was reported to this office and noticed in the annual reports. These inspections were prescribed in rule 1, page 237 of the Land Revenue Manual of 1896. The rule was, however, omitted from the Manual of 1905 and the inspections were not mentioned in the Survey and Settlement Reports from the year 1906-07. The Commissioner of Assam Valley Districts has, I am glad to find, again laid stress on the inspection of the mandals' work by District and Subdivisional Officers. The importance of this work cannot be too strongly impressed upon the officers concerned. I think that I should obtain, for inclusion in future reports, information regarding the amount of inspection of mandals' and patwaris' field work done by officers on the district staff. It is a sad result of the introduction of the circle system that the Circle Officers seem now to be regarded as having taken on their shoulders the Deputy Commissioner's responsibility for the accuracy of the Land Records of his district. The inspection of office work is useful, but without a check of field work during the cold-weather tours of Deputy Commissioners and Subdivisional Officers, it is impossible to expect efficiency. The old rule, referred to above, pointed out that Deputy Commissioners are primarily responsible for the proper maintenance of the survey and settlement records and that the appointment of the Director of Land Records was never intended to alter or weaken this responsibility, and it prescribed the testing of measurements in the field. The orders contained in this rule emanated from the Government of India and, of course, still hold good.

Survey marks.

12. Appendix F contains the results of the inspections of survey marks in the province. It cannot be too strongly insisted on that this inspection is one of the most important duties of the staff, especially in the Surma Valley.

Survey Schools.

13. The three survey schools continued to work as heretofore. During the year 2 men obtained first-class certificates and 107 men obtained second-class certificates. Of the successful candidates, only 4 were either recorders, relations of recorders or prospective recorders in backward localities. Very few of the successful candidates can hope for employment in this Department. This has been noticed for some years now and the question has arisen as to whether the schools should be maintained as they are. In a conference held on the 10th June last, the management and future of these schools formed, among other things, a subject of discussion, and a scheme is now under consideration for starting, under the Director of Surveys, a survey school of an improved status, which would meet all the requirements of the province in the matter of survey training. The existing schools will disappear in the larger school, if that is sanctioned.

Besides the certificates granted at the school examinations, 7 second-class certificates for good work in extension survey were granted during the year under rules 13B and 13C of the Land Records Manual.

PART III.—Miscellaneous.

Changes and reforms.

14. The year was rather sterile in matters of general interest and importance connected with the Department, but since the re-establishment of Assam as a separate entity attention has been given to many details which could not be touched in Eastern Bengal and Assam on account of the approaching disruption of that province.

A conference was held in which the rules for the training of officers in Survey and Settlement were discussed and revised.

There was some discussion during the year on the subject of improvement of the status of Mauzadars and the corresponding readjustment of the work of Circle Sub-Deputy Collectors. The matter is now under the consideration of the Chief Commissioner.

The gradual improvement of the condition of village recorders, which has been in progress for the last nine years, has not been enough to satisfy them. They are continually demanding an increase of pay and point to the results of the Ministerial Officers' Commission as a contrast to their prospects. They forget that they are not clerks, but field officers, and that they work or should work in the mofussil in the close neighbourhood of their homes for the most part. The question of removing the hardship inflicted on them during their attendance at office for recess work has engaged my attention, and I am consulting the Commissioners on the subject. Their admittance to the benefits of the General Provident Fund, which was referred

to in last year's Report, is of little real advantage; their pay is too low to admit of deposits, and, in any case, the deposits, without some assistance from Government, which has been refused by the Government of India, would be too small to save.

A matter of some importance to this Department is the revision of the Settlement Rules under sections 12, 29, 33(2) and (3), 34(*c*) and 40 of the Land and Revenue Regulation. A draft of revised rules was prepared by Khan Bahadur Muhibuddin Ahmad under the supervision of Mr. Beatson Bell last November. They are now under the consideration of the Chief Commissioner.

Another matter which concerns this Department was dealt with in the Eastern Bengal and Assam Board of Revenue's Circular No. 10 S. & S. of December 1911. By this order the procedure for the registration and disposal of applications for relinquishment in the Assam Valley has been defined clearly and simplified. This order has been embodied in rule 21 (*a*) of the Land Records Manual.

The result of the Ministerial Officers' Commission has been to reduce the pay and status of Registrar Kanungos. On them falls the important work of maintaining the *Jamabandi* Register up to date, but in the course of my rains tour I was impressed with the fact that only junior clerks are appointed to the post now and that good men remain in it for a comparatively short time until they qualify for the higher division. This is a most lamentable fall from the old position of Registrar Kanungos, and I am consulting the Commissioners as to whether their pay and position should not be improved. It is certain that they have now very heavy and responsible duties, and that they should not be considered as inferior to the clerks in charge of Excise or Subdivisional Accounts. The Commissioner of the Surma Valley protested against the degradation of these officers, but the fact that they did not exist in the district offices of Eastern Bengal nullified his protest at the time.

Charge and tours.

15. Mr. J. C. Jack, I.C.S., was in charge of the Land Records Department of Eastern Bengal and Assam from 1st October 1911 to 31st March 1912, *i.e.*, till the reformation of the province of Assam. Since 1st April 1912, I have been in charge of the Department of Land Records and Agriculture, Assam: during this time I spent 43 days on tour and inspected the recess work in Gauhati, Dibrugarh, Jorhat, Mariani Circles, in Silchar and in both Tahsils of Jaintia Parganas, as well as the Lakhimpur Settlement and the Dibrugarh and Silchar Survey Schools.

J. McSWINEY,

Director of Land Records and Agriculture, Assam.

SHILLONG,

The 15th November 1912.

APPENDIX A.

Progress of resettlement work in Assam during the year ending on 30th September 1912.

Name of District.	Number of Villages.										Expenditure during the year.
	Correction of maps and Records.		Soil classification.		Record attestation.		Revenue attestation.		Submission of Rate Reports.		
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	
1	2	3	4	5	6	7	8	9	10	11	12
Lakhimpur	...	...	...	...	...	...	633	633	633	633	Rs. a. p. 40,776 2 9
Sylhet (Nankar, etc.)	339	14	339	20	...	...	...	...	...	...	Figures by settlement year are not available.

APPENDIX B.

Work statement of Sub-Deputy Collectors for the year ending 30th September 1912.

Name of Circle or Subdivision.	Name of Sub-Deputy Collectors.	Number of Mandals or Patwaries in the Circle.	Number of Mandals or Patwaries whose papers were checked.	Number of villages in the Circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CACHAR.															
Silchar ...	Babu Mohendra Kumar Dam.	25	25	294	72	...	...	1,722	6	41	1,225	435	.....	Satisfactory on the whole.	
	Maulvi Mahammed Ali ...	45	44	543	249	9	2·02 miles	2,240	25	307	4,058	775	Babu Syama Charan Guha.	Satisfactory.	
Hailakandi ...	Babu Rajani Kanta Gupta ...	29	29	148	...		3·57	1,800	45	25	741	81	Babu Dina Nath Ghosh.	Fairly well.	
	„ Surendra Nath Datta...	29	29	275	30	...	...	...	...	...	...	...	„ Rajmati Mukharjee.	.....	
	„ Rajani Kanta Gupta ...		29		148	...	3·57	...	...	...	...	...	.....	.....	
SYLHET.															
Habiganj ...	Maulvi Darazuddin Ahmed (llam)*	...	...	...	...	...	...	...	...	...	...	...	.....	.....	* Joined at Habiganj in the end of June 1912.
South Sylhet ...	Babu Giris Chandra Nandi Majumdar (llam).	5	5	835	145	3	1 mile	543	10	...	5,662	50	Babu Hriday Chandra Ghosh.	Experienced officer and knows his work well.	
North Sylhet ...	Babu Harish Chandra Sarkar (Kanairghat Tehsil) from 1st October 1911 to 22nd February 1912.	16	16	228	196	...	...	3,205	153	82	3,867	142	.....	Did well during the year.	
	Babu Surendra Nath Datta (Kanairghat Tehsil) from 23rd February 1912 to 30th September 1912.		2		13	...	...	450	...	...	66	32			

North Sylhet ...	Maulvi Mahammed Abdul* Khalique (Gowainghat Tehsil) from 1st October 1911 to 10th March 1912.	30	...	...	...	...	...	...	...	...	...	...	.....	.....	* No records left of the work done by these two Sub-Deputy Collectors.
	Maulvi Ahmed Ali* (Gowainghat Tehsil) from 11th March 1912 to 27th July 1912.		...	...	...	...	...	...	...	...	...	...	.....	.....	
	Babu Dwarka Nath Chaudhuri (Gowainghat Tehsil) from 28th July 1912 to 30th September 1912.		4	...	...	...	...	...	...	...	294	...	.....	.....	
Karimganj ...	Babu Surendra Nath Chaudhuri, Patharkandi Tehsil.	7	7	218	165	...	...	1,552	205	387	540	148	Babu Gopal Chandra Chatterjee.	Worked hard.	
	Babu Satish Chandra Ghosh, from 1st October 1911 to 7th December 1911.	4	3	335	50	...	...	...	...	20	400	...	Munshi Abdul Hussain	Worked hard and well.	
	Maulvi Alauddin Chaudhuri, from 9th March 1912 to 30th September 1912.														
GOALPARA.															
Goalpara ...	Maulvi Derajuddin Ahmed, from 1st October 1911 to 10th February 1912.	36	18	274	84	...	20 miles.	629	20	124	95	...	Srijut Hari Das ...	Fairly well on the whole.	
													„ Rati Ram ...		
	Maulvi Mahammed Abdur Rasid, from 11th February 1912 to 30th September 1912.		36		177	...	17 26 miles.	724	17	184	54	24	„ Jatra Ram Das		
KAMRUP.															
Gauhati Circle ...	Srijut Bhola Nath Das ...	38	38	308	167	9	3·24 miles.	605	28	72	513	353	.....	.....	
	„ Bipin Chandra Bardalai, from 27th July 1912 to 17th September 1912.	...	...	...	...	...	...	...	...	...	...	86	.....	.....	
Kamalpur Circle ...	„ Tarini Charan Chaudhuri.	40	40	292	200	4	2 miles	Not noted.	...	47	600	313	Srijut Jagannath Deka	Honest and hard working.	
													„ Pitambor Das		
Nalbari ...	Babu Chandra Kumar Sen Gupta.	59	59	346	276	13	6·5 miles.	3,776	109	161	2,709	1,156	„ Purnananda Chaudhuri.	Satisfactory.	
													„ Maomal Das ...		
													„ Durga Ram Datta.	Cannot control the mandals under him.	
Chhaygaon ...	Srijut Janaki Nath Das ...	45	45	391	334	84	23·88 miles.	8,227	329	481	722	114	.....	.....	
Rangiya ...	„ Hari Prasad Das, from 15th April 1912 to 30th September 1912.	46	17	324	52	4	1·43	177	3	25	155	172	„ Bhatooram ...	Is a competent man.	
													„ Rupram ...	Laborious and fit for field work.	

APPENDIX B—*contd.*

Work statement of Sub-Deputy Collectors for the year ending 30th September 1912—contd.

Name of Circle or Subdivision.	Name of Sub-Deputy Collectors.	Number of Mandals or Patwaries in the Circle.	Number of mandals or Patwaries whose papers were checked.	Number of villages in the Circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Barpeta ...	Srijut Hari Prasad Das ...	20	13	257	75	9	2·60	405	9	36	8	52	Srijut Gangaram ...	Worked well. Steady and accurate worker.	
	„ Bipin Chandra Bardalai, from 22nd July 1912 to 30th September 1912.	...	...	...	17	2	...	...	...	2	2	10	„ Ditto ...	Very competent man.	
	„ Surendra Nath Gohain, from 18th July 1912 to 30th September 1912.	...	...	...	27	...	...	...	...	...	9	8	„ Ditto ...	Satisfactory.	
Bojali	„ Surja Kanta Barua ...	51	47	338	290	48	17·84	6,809	219	210	1,018	123	„ Sitaram Das...	Tolerably good.	
													„ Maniram Das	Fairly well.	
DARRANG.															
Tezpur ...	Rai Shaheb Betha Ram Sarma.	30	30	291*	258	25	9·29 miles.	...	...	529	1,306	265	„ Bathuram Das	Somewhat improved and worked well.	* Excluding Tezpur town.
													„ Rati Kanta Das	Satisfactory.	
Mangaldai ...	Srijut Uma Charan Gohain ...	43	42	321	233	15	5·7 miles.	2,000	150	329	1,015	98	„ Maniram Das	Energetic and competent.	
													„ Jagat Chandra Soharia.		
Kalaigaon ...	Srijut Tarini Charan Sarma...	42	42	527	162	16	5·30 miles.	2,199	89	315	1,644	44	Munshi Mahammed Ilias.	Satisfactory.	
													Srijut Santi Ram Deka.	Very slack.	
													Srijut Namal Chandra Sohoria, offg. S. K.	Satisfactory.	
Behali	Srijut Kamal Charan Kagti...	31	30	295	220	14	5·83 miles.	3,455	159	400	1,737	202	Srijut Sarbeswar Bhagali.	Not bad though not satisfactory.	
													Srijut Rupram Das...	Very unsatisfactory.	

NOWGONG.																	
Silghat ...	Srijut Jagannath Bujar Barua, from 26th November 1911 to 31st March 1912.	52	43	401	308	4	1·12 miles.	256	32	145	1,536	118	Srijut Sibram Bora (since died).	Good.			
	Srijut Bhola Nath Kakati, from 7th April 1912 to 16th May 1912.		13	...	27	...	...	...	...	...	28	13	Srijut Minaram Bhuyan.	Fair.			
	Maulvi Talmizur Rahaman Chaudhuri, from 9th to 18th October 1911 and 27th October 1911 to 31st March 1912.		30	...	240	4	1·31 miles.	252	20	154	302	101					
Dehing ...	Maulvi Talmizur Rahaman, Chaudhuri.	50	50	398	285	35	14·11 miles.	1,050	105	536	698	44	Srijut Kinaram Sarma...	Satisfactory ...	S. K. Mohan Chandra Bora, an able, hardworking and intelligent old hand, died during the year of cholera epidemic.		
													„ Sarat Chandra Bora.				
Hill Circle, Lanka villages.	Ditto ditto ...	6	2	...	10	...	...	79	6	70	1	...	.....				
Boha	Maului Azim-uddin Ahmed...	64	64	539	272	31	13·07 miles.	955	70	465	1,032	42	.....	Satisfactory (all three).			
SIBSAGAR.																	
Sibsagar ...	Srijut Gunakash Goswami, from 1st October 1911 to 31st May 1912.	38	32	336	215	6	2·79 miles.	982	92	120	647	311	Srijut Govinda Nath Roy.	Unsatisfactory.			
	Babu Srish Kumar Sen, from 10th June 1912 to 30th September 1912.				...	...	...	823	25	...	3	214	Srijut Umeswar Sarma				
													„ Muktaram Datta				
Jorhat ...	Srijut Khageswar Barua ...	40	40	342	195	54	19·96 miles.	2,541	...	282	1,332	378	Srijut Mahiram Das ...	Intelligent, honest and hardworking.			
Golaghat ...	Babu Dwarika Nath Sarma, from 1st October 1911 to 15th July 1912.	41	41	304	...	...	11·38 miles.	...	...	...	6,668	239	.....	Bad (both).			
	Srijut Krishna Behari Choudhuri, from 16th July 1912 to 30th September 1912.				52	...	...	...	...	3	...	98					
Kamargaon ...	Srijut Achyutananda Pathak...	15	15	200	197	30	...	3,450	50	205	208	165	Srijut Mahiram Datta...	Much improved.			
Mariani ...	Maulvi Narul Hussain Hazarika, from 1st October 1911 to 21st June 1912.	37	37	364	330	6	2·62 miles.	3,035	...	648	2,069	233	„ Mohan Chandra Sarma.	Good.			
	Srijut Bhola Nath Kakati, from 22nd June 1912 to 30th September 1912.		22		61	...	...	...	...	11	50	147	„ Katiram Das ...	Fairly well.			
Nazira	Srijut Annada Charan Bhattacherji.	36	36	380	214	...	...	1,000	100	500	1,703	281	Srijut Umeshwar Sarma*	Fair	* Since transferred.		
													„ Govinda Ram Rai Chaudhuri.				
													„ Amrit Ram Chaudhuri.				

APPENDIX B—*concld.*

Work Statement of Sub-Deputy Collectors for the year ending 30th September 1912—concld.

Name of Circle or Subdivision.	Name of Sub-Deputy Collectors.	Number of Mandals or Patwaries in the Circle.	Number of Mandals or Patwaries whose papers were checked.	Number of villages in the Circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LAKHIMPUR.															
Dibrugarh ...	Babu Promod Chandra Sen Gupta, from 1st October 1911 to 26th March 1912.	29	16	331	38	...	...	400	...	...	395	179	.....	(Both) Fairly well.	
	Babu Guru Charan De Chaudhuri, from 1st week of April to 30th September 1912.														
Tinsukia ...	Srijut Devananda Bharali ...	29	29	290	140	2	0·75 miles.	180	...	38	137	52	Srijut Golok Chandra Das, Officiating Supervisor Kanungo.	Unsatisfactory.	
	„ Kali Ram Medhi, Extra Assistant Commissioner.	19	19	158	152	6	1·25	2,900	...	...	...	46	Srijut Gopal Chandra Raj khoa.	Discharged duties with conspicuous ability.	
Tengakhat ...	Babu Rukhini Kanta Chakrabarty, from 1st October 1911 to 30th June 1912.	34	18	372	40	...	...	...	...	...	—	...	Srijut Porsuram Bar Thakur.	Satisfactory.	
	Maulvi Mahammad Fazlur Rahaman, from 22nd July 1912 to 30th September 1912.		19		40	...	...	...	...	...	...	...	Srijut Dimbeswas Gohain.		
Ranganadi ...	Maulvi Phukan Ali, Extra Assistant Commissioner, from 1st October 1911 to 9th July 1912.	18	...	166	—	...	...	...	...	...	...	2	Srijut Mohiram Das.		
	Babu Promod Chandra Ray...		17		13	...	...	...	...	...	53	19	„ Bansidhar, Officiating.		

Subansiri ...	Babu Promod Chandra Roy, from 21st August 1912 to 30th September 1912.	16	...	118	...	...	...	...	...	...	22	9	Srijut Sibnath Deka.			
	Maulvi Phukan Ali, Extra Assistant Commissioner, up to 30th June 1912.		16		6	...	...	...	...	...	...	...				
	Maulvi Narul Hussein Hazarika, from 1st July 1912 to 20th August 1912.		3		16	...	...	...	...	...	...	7				
GARO HILLS.																
Tura	.....	12	12	295	100	...	...	...	...	...	...	...	Srijut Mohiram Das.			

APPENDIX C.

"Permanently-settled" in this table includes "Revenue-free."

District.	Classification of district area (square miles).			Area for which a cadastral survey and record-of-rights are completed (square miles).			Area for which a cadastral survey and record-of-rights were being prepared in 1911-12 (square miles).			Area outstanding (square miles).			Remarks.
	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cachar	2	3,767	3,769	2	1,063	1,065	...	...	...	...	2,704	2,704	
Sylhet	3,825	1,555	5,380	...	821	821	...	...	...	3,825	734	4,559	
Goalpara	2,528	1,433	3,961	...	312	312	...	...	...	2,528	1,121	3,649	
Kamrup	53	3,805	3,858	53	2,173	2,226	...	...	...	...	1,632	1,632	
Darrang	8	3,398	3,406	8	1,200	1,208	...	...	...	...	2,198	2,198	
Nowgong	4	3,800	3,804	4	1,124	1,128	...	...	...	...	2,676	2,676	
Sibsagar	62	4,934	4,996	62	1,793	1,855	...	...	...	...	3,141	3,141	
Lakhimpur	3	4,204	4,207	3	732	735	...	...	...	...	3,472	3,472	
Garo Hills	...	3,140	3,140	...	46	46	...	...	...	...	3,094	3,094	
Total	6,485	30,036	36,521	132	9,264	9,396	...	...	...	6,353	20,772	27,125	

APPENDIX D.

Progress of "Extension" Surveys for the year ending 30th September 1912.

Name of district.	Total area of district (square miles).	Area surveyed cadastrally by professional party (square miles).	Area surveyed in extension by village recorders.			Total area cadastrally surveyed (square miles).	Remarks.
			Previously (square miles).	During the year under report (square miles).	Total (square miles).		
1	2	3	4		6	7	8
Cachar	3,769	1,304	22	9	31	1,335	
Sylhet	5,380	545	271	5	276	821	
Goalpara	3,961	...	310	2	312	312	
Kamrup	3,858	1,966	260	...	260	2,226	
Darrang	3,406	857	348	3	351	1,208	
Nowgong ...	3,804	1,012	116	...	116	1,128	
Sibsagar ...	4,996	1,521	131	3	134	1,655	
Lakhimpur ...	4,207	269	466	...	466	735	
Garo Hills ...	3,140	...	41	5	46	46	
Total ...	36,521	7,474	1,945	27	1,992	9,466	

APPENDIX E.

Maintenance of the records during the year ending the 30th September 1912.

Name of district.	Number of tenancies or periodic *pattas* on area dealt with.	Number of mutations recorded.			Percentage of column 5 on column 2.	Remarks.
		By formal procedure (Assam).	By summary procedure (Assam).	Total.		
1	2	3	4	5	6	7
Cachar	49,546	1,100	6,119	7,219	147·16	
Sylhet	41,558	639	6,843	7,482	18·00	
Goalpara	1,736	...	95	95	5·47	
Kamrup	143,882	2,400	5,640	8,040	5·58	
Darrang	98,839	565	5,702	6,267	6·34	
Nowgong	62,539	318	3,451	3,769	6·03	
Sibsagar	124,744	1,551	5,490	7,041	5·64	
Lakhimpur	...	...	...	..	...	The district was under re-settlement.
Total ...	522,844	6,573	34,240	39,913	194·22	

APPENDIX F.

Condition of survey marks during the year ending 30*th September* 1912.

No.	Classification.	Total number of marks.	Total number found in good order.	Number found not in good order.		Total of columns 4 and 5 in good order on 1st October 1911.	Number lost or left unvisited.
				Repaired.	Not repaired.		
1	2	3	4	5	6	7	8
1	Theodolite stations—						
	(i) Stone prisms	12,065	10,259	487	278	10,746	1,041
	(ii) Square stones or blocks ...	5,386	2,893	...	19	2,893	2,474
	(iii) Other marks	86,863	47,505	16,935	10,105	64,440	12,318
2	Boundary marks of district, etc. (other than theodolite stations)—						
	(i) Stone prisms	14,520	7,690	188	312	7,878	6,330
	(ii) Square stones or blocks ...	4,097	2,762	9	250	2,771	1,076
	(iii) Other marks	2,695	1,978	153	354	2,131	210
3	Boundary marks of private property— (other than theodolite stations)—						
	(i) Stone prisms	5,529	5,208	48	144	5,256	129
	(ii) Square stones or blocks ...	18,566	16,463	159	407	16,627	1,532
	(iii) Other marks	6,793	4,670	280	705	4,950	1,138
4	Kanungo's mounds	10,234	4,888	2,511	1,100	7,399	1,725
	Total	166,738	104,321	20,770	13,674	125,091	27,973

SHILLONG : Printed and published by B. H. KING, Superintendent, Assam Secretariat Printing Office,
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Extract from the Proceedings of the Chief Commissioner of Assam in the Revenue Department, No. 958R., dated the 11th March 1913.

READ—

The Survey and Settlement Reports, Assam, for the year ending the 30th September 1912.

RESOLUTION.

THE Annual Reports on the administration of the Survey and Settlement Departments should reach the Local Administration by the 15th November in each year. The Settlement Report was submitted by the Director of Land Records within the time prescribed, but without the figures for the district of Sylhet, which were furnished subsequently by the Deputy Commissioner after the issue of several reminders. Mr. McSwiney also draws attention to the fact that the figures supplied by several other districts, notably Darrang, were incomplete. The Chief Commissioner would impress upon all District Officers the necessity for the punctual submission in future of the Reports relating to their districts, with all information and figures complete. The Report of the Director of Surveys was not received till the 30th December, the delay being due to stress of work owing to the territorial changes to which effect was given on the 1st of April last.

2. When the territorial changes above referred to took place, it was decided that the arrangements in force in the late Province of Eastern Bengal and Assam for the conduct of survey work in this province and in the Eastern Bengal districts of the Province of Bengal should remain unchanged for a period of two years. The Department is, therefore, at present administered by one Director under the control of the Government of Bengal and of this Administration so far as their respective jurisdictions are concerned. Assam has its separate Traverse Party, and certain sections of the Director's office, such as the Direction and Drawing offices, are common to both provinces. A scheme drawn up by the Director for the future working of the Department is now under consideration.

3. Since the close of the year sanction has been accorded to the establishment of a Survey School in the neighbourhood of Gauhati, and provision has been made in next year's budget for the erection of the necessary buildings. The school will be utilised primarily for imparting a training in survey work to junior officers of the Indian Civil, Provincial Civil and Subordinate Executive Services, and to Supervisor Kanungos, Mandals and Patwaris. The classes will, however, also be open to the general public, and the Chief Commissioner trusts that the school will prove successful in providing an additional avenue to lucrative private employment under zamindars and other persons desirous of obtaining the services of trained surveyors.

The instruction of mandals in the use of the theodolite is a move in the right direction, and, as pointed out by the Director, will materially decrease the cost of survey and resettlement operations. The policy will be gradually extended until all mandals and patwaris have received a training in theodolite traverse work, and this the establishment of a Survey School should greatly facilitate.

4. The Director has drawn attention to the inaccuracies in the surveys of grants of land for the special cultivation of tea. The conditions under which such surveys have been made in the past have been far from satisfactory. The provision of reliable maps is a necessity both in the interests of Government and of the tea industry, and the failure to provide such maps has proved to be a fruitful source of dispute. The Chief Commissioner trusts that the rules which have been prescribed during the past year for check by the Survey Department of the work of approved surveyors will obviate such errors in the future. Past errors are not so easily rectified, but it has been decided to undertake the skeleton survey of grants in the course of ordinary resettlement operations, and the local Branches of the Tea Association are being consulted as regards the desirability of undertaking, at the joint cost of Government and the tea industry, such surveys in the case of grants situated in districts which will not come under resettlement for many years to come, it being proposed that owners of tea estates should at the same time be allowed the option of having a detailed survey of their estates carried out by the Survey Department at a moderate cost which they would contribute.

5. The most important work upon which the Settlement Department was engaged during the year was the resettlement of the Lakhimpur district. The fact that the operations were brought to a close within the period sanctioned, notwithstanding the delay which occurred during the preliminary stages, is creditable to Mr. Mackenzie, the Settlement Officer, and his staff. The resettlement resulted in a moderate enhancement of 11·43 per cent. on the revenue assessed on ordinary cultivation. The final report submitted by the Settlement Officer is under separate consideration. The remarks of the Director regarding the unsuitability of the innovation introduced in the course of the Lakhimpur Settlement, requiring the submission by the Settlement Officer of rough preliminary notes on each mauza and proposals for its future assessment to the Commissioner and Director of Land Records, will receive the attention of the Administration.

The resettlement of 2,450 petty scattered estates in Sylhet, covering an area of 31½ square miles, which were not dealt with during the last Ilam settlement, had not been completed before the close of the year. These operations have been in progress since February 1908 and have been unduly prolonged. Since a special staff has now been appointed for this work and orders have been passed in regard to all points referred to the decision of this Administration, the Chief Commissioner expects the resettlement to be completed by the end of the next field season.

6. The deterioration in the quality of Land Records work in Assam was noticed in paragraph 6 of Eastern Bengal and Assam Government Resolution No. 455R., dated the 28th February 1912, on the Settlement Report for 1910-11. The Chief Commissioner regrets to observe that the hope expressed in that Resolution that a marked improvement would be effected in the year under report has not been realised. The current year's Report discloses a condition of affairs which can only be described as most unsatisfactory. It is clear that, though the work of a number of Circle Sub-Deputy Collectors has been all that could be desired, the control exercised in many Circles by the officers in charge over the subordinate Land Records staff is totally inadequate, and is most markedly so in Cachar and the Jaintia Parganas. The unfortunate results are doubtless attributable in some degree to the miscellaneous duties which Circle Sub-Deputy Collectors are increasingly called upon to perform. Sir Archdale Earle has given the subject much anxious consideration. Among the remedies suggested are the reduction of the area of the Circles accompanied by an increase in the number of Circle Sub-Deputy Collectors, the more extended utilisation of mauzadars for the purposes of miscellaneous enquiries as used to be the practice in the past, and the transfer to mauzadars of certain of the functions of Circle Sub-Deputy Collectors. While these matters were under consideration, the question of the formation of village organisations arose, as well as of the relation which Circle Sub-Deputy Collectors and mauzadars should bear to such organisations, and this has necessitated a further reference to Divisional Commissioners and District Officers. While making full allowance for the inroads made upon their time by miscellaneous work, the Chief Commissioner cannot accept this as a complete explanation of the failure of many Circle Sub-Deputy Collectors to discharge satisfactorily their duties in connection with the maintenance of the land records which is the primary purpose for which they are appointed. The inadequate supervision is reflected in the slipshod work of certain Supervisor Kanungos, mandals and patwaris, to which attention is drawn by the Director. There can, in any case, be no excuse for the neglect to rectify errors pointed out in the course of inspection. Sir Archdale Earle does not wish to say more in this his first year of office than that a repetition of the neglect of field work, and of the correct maintenance of the land records disclosed in the present year's Report, will entail serious consequences in the cases of the officers of all grades concerned. As regards the control to be exercised by District and Subdivisional Officers over the work of the Land Records staff, separate orders have already issued recently. It was, of course, never contemplated that the appointment of Circle Sub-Deputy Collectors should relieve these officers of their ultimate responsibility for the satisfactory performance of this important branch of district work. The Chief Commissioner agrees with Mr. McSwiney that the extent to which District and Subdivisional Officers have checked the work of the staff in the field should in future be fully reviewed in the Annual Report.

7. A number of memorials have been submitted by mandals and patwaris praying for an increase of emoluments and are receiving the careful consideration of the Chief Commissioner in consultation with the Commissioners of Divisions and the Director. Sir Archdale Earle entirely endorses Mr. McSwiney's remarks as regards the desirability of securing resident mandals for all lots. The mandal or patwari should, if possible, not only reside in but should also as far as possible be a native of his lot. If this practice were more universally observed, there would probably be fewer complaints as to the inadequacy of the remuneration given.

8. The Chief Commissioner also concurs in the opinion expressed by the Director in regard to the importance of the work of Registrar Kanungos, and as to the necessity that it should be entrusted to experienced clerks, who should not be changed frequently. The specific recommendations of the Director on this subject are awaited.

9. The cordial thanks of the Chief Commissioner are due to Captain Hirst and Mr. McSwiney for the zeal and activity displayed by them in the administration of their respective Departments. Captain Hirst's efforts to extend the usefulness of his Department in relation both to Government and the general public have Sir Archdale Earle's full sympathy and support. The careful inspections carried out by Mr. McSwiney of Land Records work in the field are of the greatest value.

The names of the officers whose work has been commended by both Directors have been duly noted.

ORDER.—Ordered that this Resolution be published in the *Assam Gazette*, and that a copy of it, with a copy of each of the two Reports, be submitted to the Government of India.

By order of the Chief Commissioner of Assam,

W. M. KENNEDY,

Second Secretary to the Chief Commissioner of Assam.

REPORT

ON THE

SURVEY AND SETTLEMENT OPERATIONS

IN

ASSAM

FOR THE

Year ending 30th September 1913.

PRINTED AT THE ASSAM SECRETARIAT PRINTING OFFICE.

1914.

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SURVEY REPORT.

CONTENTS.

CHAPTER I.

PAGE

General remarks ... ... 1—3

CHAPTER II.

Work done by the Assam Traverse Party ... ... 3—6

CHAPTER III.

Shillong Drawing Office ... ... 6—7

CHAPTER IV.

Tours of the Director of Surveys 7

CHAPTER V.

Services of Officers 7

REPORT

ON THE

SURVEY OPERATIONS IN ASSAM

FOR THE

Year ending 30th September 1913.

No. 4527—I-23A^2, dated Calcutta, 24th November 1913.

From—Major F. C. HIRST, I.A., Director of Surveys, Bengal and Assam,

To—The Second Secretary to the Hon'ble the Chief Commissioner of Assam.

I have the honour to forward my report upon the work of my Department in Assam during the past year. I have held charge during the whole period reported upon.

2. The outturn of the year cannot be given concisely in intelligible form, since it consists of a miscellany of different types of work that have no square mile equivalents.

3. There have been no serious changes in the year under report, except that my own office has moved from Shillong to Calcutta. It has been decided to make the headquarters of one Assistant Director of Surveys, Shillong, so that when I am not in Shillong, there will be an understudy on the spot.

4. With reference to my last report, I may point out that the proposal mentioned in paragraph 4(*a*) for a special tea grant boundary survey is before the Tea Association and, until their reply is received, no action will be taken.

5. In paragraph 4(*b*) of my report I outlined a new scheme for doing away with extension surveys based upon planetable work. The experiment carried out in Goalpara met with unqualified success; the mandals traversed an area of about 85 square miles during the year, and observed their own azimuths; all computing and plotting was done by Mr. Judd's staff. There was practically no revision in the field work, and the system is being extended now to the Kamrup district. It is now quite clear that it is only a matter of a few years before the planetable can be practically done away with in areas in which cultivation extends in Assam. Thus permanent economy and efficiency will be obtained.

6. In paragraph 4(*c*) of my last report I mentioned that the maps in the Dhubri Record-room were to be re-arranged. I only received Government orders at the close of the year, and hope that the final re-arrangement will be complete before my next report is due.

7. In paragraph 4(*d*) of my report I said that I had almost completed the Survey Gazetteer of Goalpara. I completed it during the year under report, but it was lost in the post for some months. It has since been recovered and Government has decided to publish two hundred copies of the book.

8. Government has sanctioned the establishment of a Central Survey School about 7 miles from Gauhati [*vide* paragraph 4(*e*) of my last report], and arrangements are nearing completion to start it from November 25th, 1913.

These arrangements have been a considerable personal tax; my original scheme for one Central School for Eastern Bengal and Assam having now resolved itself into two schools, one for Assam and one to start next January, for Bengal near Comilla. The necessary duplication of work has been heavy, particularly as Captain Gwyn, Assistant Director of Surveys, has been at home this hot weather.

9. Early in the hot weather of 1913, I called a meeting of the Government Approved Surveyors of the Province at Gauhati, to discuss certain new rules that Government had sanctioned for their guidance, and to find out how far these rules were likely to operate harshly upon the Approved Surveyors.

The rules were those upon which my own staff works, but one of the Approved Surveyors had had difficulty in adopting them.

The opportunity was taken to discuss survey matters in the Province generally, and the proceedings of the meeting were forwarded to Government; they are still under the consideration of Government and final orders cannot be expected for some time as several questions of some importance are included in the proceedings.

10. The year has been marked by steady progress in two directions. First, Government officials have made far more use of the Department than they have done in the past. Enquiries for help and opinions have come from all sides and, so far as funds and time have permitted, they have been freely responded to. Secondly, we have been able to give help and advice to private persons to a considerable extent, but have not yet got as much into touch with their interests as I should like to see.

A great deal of the work that falls under these two heads cannot be referred to in detail in an annual report. Much of it entails no work except consideration and correspondence, but it is a useful phase of the duties of the Department and it is gratifying to notice the marked increase in it that has taken place this year.

11. Standards for checking the instruments used by Surveyors employed under District Officers were established at Gauhati, Dhubri, and Dibrugarh. It is proposed to extend these to Sylhet and Cachar, and perhaps elsewhere, next year.

12. The newly published 1″=1 mile Survey of India sheets have been found to be of great use to my Department. In the south of Sylhet the topography on the old maps was very unreliable and it may almost be said that its unreliability actually caused disputes in rough areas in which physical features formed boundaries of estates. In one such case Major Mears' maps have been of the utmost use to me in making plans for permanently marking a boundary of importance.

With regard to an area of about 90 square miles near Sylhet, which is for experimental survey and settlement, commencing from next November, the 1″ maps enable close estimates of cost and time for the traverse operations to be made.

In the Khasi and Jaintia Hills we were fortunate in obtaining 1½ inch maps of a portion of the district. Probably it will be years before the true value of these maps is realised.

The maps were used by the Eastern Bengal State Railway, at my suggestion, in the survey for a railway route from Gauhati to Shillong, and I am told that they were of the greatest use to the Engineer employed upon that work.

The Assam Administration has issued orders that these 1½″ maps are to be the basis of the limits of all mining prospecting licenses and leases in the areas that they cover. The detail on the maps permits of such claims being limited by definite topographical features, instead of, as was recently the custom, oblong and square blocks, the true boundaries of which were almost impossible to find upon the ground, and which, had valuable minerals been discovered, could but have resulted in endless confusion and a great deal of litigation.

The scale is susceptible of showing with sufficient clearness the limits of the estates of the different Siems in these hills. This is an important factor should the Khasi Hills develop either agriculturally or in other directions, such as mining. Should it be found necessary to demarcate those estates, the cost of the survey will be reduced from a very considerable sum to practically nothing at all. I have a firm belief in the future of the Khasi Hills and one of my reasons for obtaining sanction for the special preparation of these maps was the ultimate probability of the demarcation of the Siems' estates, and the great saving to Government that would be ensured by the use of these maps.

In several other directions the one inch maps are of considerable value to Government and to private persons. To give one instance, for a light railway scheme a rough alignment can be made from the 1″ maps. If that alignment is sent to me, I can show on the 1″ scale, the physical difficulties, such as tanks, that will raise the cost of construction. Mr. Shaw has made this suggestion, and it has already appealed to one firm in India that is interested in light railways.

Very recently the question of reducing the scale of survey for hilly tracts has been under discussion. After one year's experience of the new maps of the Survey of India, I have no hesitation in saying that, wherever hilly tracts are likely to be valuable, it is well worth the while of a Local Government or Administration to pay for the special prepartion of 1½″ maps. It is true that they are photographic enlargements of the 1″ work, but in valuable hilly tracts the smaller scale is unsuitable to local requirements. For plains areas the 1″ sheets give all the help that could be expected from a topographical survey.

I venture to hope that serious consideration will be given to this brief note before any wholesale reduction of scales in the hilly tracts of Assam is finally decided upon.

13. Selected mandals from the Kamrup district have been trained to carry out field traverse work and azimuth observations during the year.

14. The Royal Humane Society Medal for saving life was presented to Tindal Abad during the year.

15. In addition to the officers of my own Department mentioned in Chapter V of this report, I beg to take this opportunity of recording my thanks to Mr. McSwiney, Director of Land Records and Agriculture, and Mr. Lainè, Deputy Commissioner of Goalpara, for the help that they have given me from time to time throughout the year. I am also grateful to all the officers of the Administration with whom I have had dealings for their courtesy and help on all occasions.

16. Attention is especially drawn to paragraphs 4 to 9, 12, 29, 36, 38, 45, 46, 51, and 53 of this report.

CHAPTER II.

Survey work by the Assam Traverse Party (Mr. O. E. C. Judd).

I.—Traverse of extension survey areas in Kamrup district.

17. The system used in Goalpara district last year (*vide* paragraph 43 of my report for that year) was extended to the Nalbari Circle of the Kamrup district where 19 square miles, falling in 36 villages, were traversed. The 16″ plots fall on 57 sixteen inch sheets which have been sent to the Deputy Commissioner for the necessary fresh cadastral survey.

18. The traverse survey of the extension villages of Circles Bojali and Rangia will be carried out on the system used in Goalpara, by three mandals who were trained during the recess season of the year under report at Shillong.

19. The origin of survey was the intersection of North Latitude 26°-30′ with East Longitude 91°-30′, the values of the two Great Trigonometrical Stations (Mairangka and Dumaria) being corrected by 2′—27·18″ in Longitude to bring them into terms of the latest value of Madras.

20. In all 1,731 angular observations were made and 25 azimuths used.

21. Index maps are being prepared for the use of the Deputy Commissioner and my officers; they are at present under compilation.

II.—Relaying old traverse stations in the cadastral area of Nalbari Circle, Kamrup district.

22. For some years past the Deputy Commissioner of Kamrup had wished to have the traverse stations of the 1883-85 survey relaid in an area of 52 villages covering 61·3 square miles in the Nalbari Circle, many of the old stations having become lost mainly through ground subsidence consequent upon the earthquake of 1897. Initially he wished to have *all* the old traverse stations relaid.

23. The procedure adopted was to traverse anyhow round the villages, picking up all old permanent marks. Where the old marks were old traverse stations those points were used as common points, and the new stations were plotted on the original 1883-85 sheets. Thus the Deputy Commissioner will be supplied with sufficient points for revision or resurvey work at any time.

24. Owing to difficulties in correcting our traverses to make them fit with the old work—which was essential to the Deputy Commissioner's requirements—and owing to the prevalence of water even in April in some of the villages, further work remains to be done in 12 villages out of the 52 affected. This work will be seen to next year.

25. No Great Trigonometrical Stations were connected with, as sufficient marks of the old survey were forthcoming for connection purposes.

26. Nine hundred ninety five angular observations were made and 20 azimuths used.

27. The origin used was the intersection of North Latitude 26°·30′ with East Longitude 91°·30′, but the final co-ordinates of points have not taken into account Longitudinal values of Madras more recent than that accepted in 1883-85. This was necessary to save the time of re-computing the old data, which of course is not based upon the latest value of Madras.

III.—Messrs. Byrkmyre's special Jute Grants in Kamrup.

28. This firm applied for an area of about 40,000 acres for special cultivation, and certain preliminary work was done by my Department. The work will be completed next year, when a full report of it will be given.

IV.—Traverse Survey of the Tea Grants of District Lakhimpur.

29. This work was in continuation of that of previous seasons, and I regret to say that we have not yet completed all the grants in the district. I have sent the Commissioner a detailed note pointing out the present state of tea grant boundaries in this district so far as it is known, and hope that at all costs it may result in the adjustment of all the special cultivation grant boundaries both in this district and in the rest of Assam.

30. So far as was known, 87 grants remained from last year to be located and surveyed, and for one reason or another, over which we had no control, only 22 were traversed. The balance either could not be found or the planters had not cleared their boundaries. Of the 22 villages traversed, there are slight errors in the theodolite work in 4, which will be seen to with those not dealt with last year.

31. In all there were 3,012 traverse stations and the work was applied both to stations of older traverse and to two Great Trigonometrical Stations.

32. The origin used was the intersection of North Latitude 26°·30′ and East Longitude 94°·30′ and the co-ordinates assigned to points are based upon the latest value of Madras.

V.—Survey of the Digboi Oil lands, district Lakhimpur.

33. At the request of the Assam Oil Company, Limited, a 32″=1 mile survey of its properties near Digboi was commenced. It has not yet been decided in how great detail the final maps are required, and during the year only the initial traversing and levelling were completed. The remaining work will be taken up next cold weather after the return of the Hon'ble Mr. Hawkins in November, he alone knowing exactly what is required.

VI.—Relaying the Khasi and Jaintia Hills and Sylhet district boundary.

34. Owing to the frequency of disputes along this boundary it was decided to relay the whole of it from Tharia Ghat to the Mymensingh border. The necessary preliminary traversing was done during the year, and comparative maps prepared. The actual relaying will be done next year, when a complete report will be written.

VII.—Subadar Arjun Rai's grant, Naga Hills.

35. The boundary survey of a grant of 1,000 acres made to Subadar Arjun Rai was carried out during the year. A special full report on the work is about to be submitted to Government.

36. The only interesting incident that occurred was the attitude of the Nagas, who persistently threatened force, unless the operations were stopped, until the Civil authorities appeared on the scene. Then work could be proceeded with, but much time had been lost by the forcible obstruction of the Nagas.

VIII.—Relaying the Goalpara-Bhutan boundary.

37. This work was in continuation of that referred to in paragraph 26 *et seq.* of my last annual report. The final marking of the boundary will be completed next year, when a full report on the whole operations will be issued.

38. Two points, however, require to be mentioned here. The accepted boundary between Jalpaiguri and Bhutan is that given in Hodgson's maps of 1891-1892 and that boundary was relaid by me a few years back. The boundary between Goalpara and Bhutan is by O'Donel's survey of 1867-1868. Hodgson, however, followed O'Donel's work of 1865-1866 between Jalpaiguri and Bhutan, and, incidentally relaid pillar 49, which is the trijunction of Bhutan, Jalpaiguri and Goalpara, but placed it too far south. The error was noticed so soon as we tried to use O'Donel's Goalpara maps in continuation of Hodgson's relay. I suggested a compromise which was accepted in letter No. 258, dated 1st February 1913, from the Secretary to the Government of Bengal, Revenue Department, to my address.

The other case is at the eastern end of the boundary. There pillar 79 is the trijunction of Bhutan, Goalpara and Kamrup, but O'Donel's work ended at pillar 78 to the west of that pillar. I have suggested that the boundary be a straight line between these two pillars, but have not heard yet if Government accepts that suggestion.

39. A good deal of sickness occurred amongst the staff, but not more than was expected. Most of the boundary is very inaccessible, and supplies are difficult to arrange.

IX.—Extension Survey Traverse in Goalpara district.

40. An area of 88 square miles was traversed by the Mandal staff trained in Shillong in 1911, and the computing and plotting done in the Assam Traverse Party. The 16″ plots were sent during the year to the Deputy Commissioner, who will arrange for the cadastral survey.

41. The necessary 1″ index maps for the area dealt with are under compilation and will be sent to the Deputy Commissioner shortly.

42. I have referred to this work in paragraph 5 of my report, but may point out again here that the experiment of using the District Mandals for theodolite and azimuth work has been absolutely successful.

X.—Goalpara-Kamrup boundary, (Pargana Habraghat).

43. The boundary between pargana Habraghat of district Goalpara and the Kamrup district was accepted by the Board of Revenue, Eastern Bengal and Assam, in its letter No. 724S. & S. of 22nd March 1911, to the address of the Commissioner of Assam Valley Districts, as that mapped by Major MacDonald in 1873-74. It was ordered that the boundary be relaid and marked permanently, and that a case map and report be sent to Government.

44. Last year the Public Works Department put down 10 marks, from a point about 6 miles north of the trijunction of the districts of Goalpara, Garo Hills and Kamrup; the 6 miles to the south had previously been demarcated by MacDonald's survey by Mr. C. A. O'Donel. Work was stopped owing to inclement weather but completed during the year under report. As marks were embedded by the Public Works Department, their positions were checked by Mr. Judd's staff.

The linear length of boundary now permanently marked is 37 miles, and in it 31 marks have been placed on the boundary, and 28 reference pillars embedded. All these marks are of stone with the letters B. P. (boundary pillar) and R. P. (reference pillar) cut clearly on them.

45. There is one conundrum remaining on this boundary; it occurs through MacDonald's boundary cutting through the valid lakhiraj Dhantola held by the Gauripur Raja, placing a portion of it in the Kamrup district. This matter ought to be cleared up as soon as possible and I understand that it is under the consideration of the Commissioner. When the matter is settled the final report required by Government can be issued.

XI.—Goalpara-Kamrup boundary (Khuntaghat pargana).

46. The question of what is to be accepted as the final boundary for this pargana on its eastern side is still under the consideration of Government. It is expected that the final relaying will be undertaken in 1914-15.

As reported in 1909-1910, about 26 miles of the boundary have been traversed, and so soon as the question of what survey is to be relaid is decided, the relaying can be taken up.

XII.—Relaying the boundary of Chak Lokuti, Cooch Behar.—Goalpara.

47. This survey was referred to in paragraphs 34 and 35 of my last report. The boundary by O'Donel's survey of 1867-69, as modified by the award of Renny in 1873, was relaid during the year, it having been accepted by the Cooch Behar State and Government.

48. 6·5 linear miles of boundary were relaid and marked by 25 concrete pillars, 8 inches square and 2 feet long, embedded almost flush with the ground. "Simal" trees have been embedded 5 feet to the magnetic north of each pillar, and in addition, along the boundary itself, 23 cuttings of the same tree have been planted.

49. The origin adopted for the whole district was used for the survey.

50. Fair maps and copies of the traverse data have been supplied to the Deputy Commissioner and to the Cooch Behar State.

51. On this survey the marks embedded were made by the field staff on the spot, a system that I hope to be able to use more generally in the future.

XIII.—Boundary between the parganas and Duars, district Goalpara.

52. In paragraph 30 of my last report I referred to this survey, and it is unnecessary to report work done in detail here pending a decision as to what the correct boundary is.

XIV.—Miscellaneous work in various districts.

53. It is not possible or advisable to detail here the various miscellaneous work carried out by the Assam Traverse Party. A very few years ago its miscellaneous programmes were negligible and although I anticipated extensions in field work, I did not expect to receive the large amount of enquiry work that has occurred. Further, the recently issued rules demanding checking work and my countersignature upon special cultivation land grant maps, has thrown a heavy strain upon the staff. Messrs. Thomas Shaw, A. B. Smart and O. E. C. Judd and their staffs have all co-operated to help all enquirers, with, I believe, a considerable amount of success.

CHAPTER III.

Shillong Drawing Office.

Reproduction Section.

54. Map printing for Assam districts during the year was as is given below :—

District (village maps).	No. of sheets.	Number of copies printed.
1	2	3
Cachar	...	...
Darrang	3	75
Garo Hills	...	...
Goalpara	...	...
Kamrup	147	4,410
Lakhimpur	154	4,765
Lushai Hills	...	...
Naga Hills	...	...
Nowgong	...	...
Sibsagar	...	...
Sylhet	185	4,350
Khasi and Jaintia Hills	...	...
Miscellaneous	...	34,964
Total ...	489	48,564

55. The total number of pulls for Assam was thus 48,564 out of a total for Bengal and Assam of 544,851. These figures exclude work done for Western Bengal in Calcutta. No comparison is possible with last year's figures for Assam reproduction, owing to the confusion ensuing upon the demise of the Province of Eastern Bengal and Assam.

The total outturn of the Drawing Office far exceeds that of any previous year, while all Assam work has been dealt with expeditiously. Needless to say, the greater the total of all printing done in the Drawing Office, the cheaper should be the cost of each item.

56. The whole office recovered through book debit and privately for Assam work Rs. 3,475-10 which figure may be used later on for comparative purposes.

Issue and Copying Section.

57. For Assam, during the year 20 applications for plans were received. The total receipts during the year were Rs. 79-1.

Thana Mapping Section.

58. This section was formed originally to deal with Jurisdiction and Thana mapping from old or new cadastral detail. The maps of District Cachar are nearing completion.

Record Section.

59. During the year 1,552 original cadastral maps were racked in the record-room. This brings the total of such maps stored in the Record Section to 11,601.

CHAPTER IV.

Tours of the Director.

60. I have been on tour for over ten months during the year and am feeling the effects of it; Captain A. H. Gwyn returns from leave shortly and, as I understand that a second Assistant Director is likely to be appointed, there should be no necessity for such an amount of touring in the future.

CHAPTER V.

Services of officers.

61. Captain A. H. Gwyn, I.A., Deputy Superintendent, has given me great help. He was on leave during the hot weather, but during the first half of the year he displayed great keenness and ability.

62. Mr. Thomas Shaw, my Personal Assistant, as usual, has rendered invaluable help. There is no end of his keenness for work, and I again recommend his services to the special notice of the Chief Commissioner.

63. Mr. A. B. Smart has done exceedingly good work, in charge of the Shillong Drawing Office, and Mr. E. O. C. Judd, in charge of the Assam Traverse Party.

64. Babu Damodar Rao, my Superintendent, has continued to work unsparingly, despite the fact that his health has not always been good.

Calcutta,
The 23rd November 1913.

F. C. HIRST, *Major, I.A.*,
Director of Surveys, Bengal and Assam.

No. 5677-122.

FROM

J. McSWINEY, Esq., M.A., I.C.S.,

DIRECTOR OF LAND RECORDS AND AGRICULTURE, ASSAM,

To

THE SECOND SECRETARY TO THE CHIEF COMMISSIONER OF ASSAM.

Dated Shillong, the 15th November 1913.

SIR,

I HAVE the honour to submit herewith the Annual Report on the Department of Land Records for the year ending 30th September 1913. I would ask your attention to paragraph 21 of the report regarding the date fixed for its submission.

I have the honour to be,

SIR,

Your most obedient Servant,

J. McSWINEY,

Director of Land Records and Agriculture, Assam.

SETTLEMENT (LAND RECORDS) REPORT.

CONTENTS.

PART I.

	Page
Resettlement	1—3

PART II

Land Records	3—12

PART III.

Miscellaneous	12—15
Appendices	17—25

REPORT

ON THE

DEPARTMENT OF LAND RECORDS IN ASSAM

FOR THE YEAR ENDING THE

30TH SEPTEMBER 1913.

PART I.—RESETTLEMENT.

1. The resettlement of Lakhimpur district, which was concluded in the preceding year, completed the programme of settlement operations in the Assam Valley which was initiated by Sir Bampfylde Fuller in 1902 and introduced a method of assessment which, while scientific, is in its results easily understood by the people and has come to stay.

Dibrugarh town.

2. As stated in paragraph 1 of the report for 1912-13 the preliminary report on the resettlement of Dibrugarh town by Srijut Bharat Chandra Das, Assistant Settlement Officer, was submitted to the Chief Commissioner for orders in the latter part of September 1912, but the final orders on it were delayed by representations submitted by certain residents of the town, including the proprietor of Chowkidinghi tea estate. These memorials raised objections in general to the principles of assessing land in towns and in very great detail to the Assistant Settlement Officer's particular proposals and had to be elaborately considered. Sanction to the classification of sites and rates of assessment has been accorded in the Second Secretary's letter No. 4124R., dated the 2nd September 1913, and the revenue calculation is now in progress. The Deputy Commissioner expects that the work will be finished early in December next except the distribution of pattas which will await the final sanction of the Local Administration. Srijut Bharat Chandra Das deserves commendation for the careful manner in which he prepared his proposals, which successfully withstood a considerable amount of public criticism.

Goalpara.

3. The question of the resettlement of Chirang, Ripu and Guma, the Government or *khas* duars of Goalpara, came up for consideration during the year. In Second Secretary's letter No. 5405R., dated the 19th September 1913, orders have been issued for a regular survey and resettlement of Guma duar (Bara and Chota). The work is to be carried out by the Duars Sub-Deputy Collector, under the control of the Deputy Commissioner. The enhancement of revenue, irrespective of what might be due to extension of cultivation, is limited to 33 per cent., and the term of settlement is to be 20 years. The operations were to have commenced this field season, but the illness of the Sub-Deputy Collector and his consequent absence on leave is likely to cause considerable delay as the Commissioner has expressed his inability to send a suitable substitute. Special rates have been sanctioned for the Sonthal Colony. A regular resettlement in case of the other two *khas* duars has not been considered desirable in view of the existence of vast tracts of jungle in one and the decline of cultivation in the other.

The remaining duars, Sidli and Bijni, which are zemindary, will probably be resettled for ten years with the Raja of Sidli and the Rani of Bijni, respectively, on the present rent roll, as it is not advisable to consider an alteration of rates in their present economical position, when the effects of the Gauhati Extension of the Eastern Bengal State Railway are not known.

Cachar.

4. The present resettlement of Cachar district expires on the 1st April 1915 and, as noted in the concluding portion of paragraph 3 of the last report, Mr. W. L. Scott, I.C.S., was deputed to enquire into the present economical condition of the people of this district along with that of the Jaintia parganas in Sylhet, and to report on the desirability or otherwise of revising the settlement or extending it for another term of years. His report was received in May last and submitted for the Chief Commissioner's orders in that month. Mr. Scott advocated a re-assessment of the district for various convincing reasons set forth by him, and resettlement operations were sanctioned in Second Secretary's letter No. 2448R., dated the 9th June 1913, with Mr. Scott as the Settlement Officer. He joined the district on the 2nd August 1913 in that capacity and has been since engaged in making preliminary arrangements so as to commence field work immediately the weather permitted after the Pujas. The budgets for the current and next financial years have been prepared, instruments and articles of stationery indented for, the sub-circles and lots redistributed for settlement purposes, and an extra staff of Kanungos and patwaris, amounting to 80 in all, has been engaged. The scheme of land classification and the terminology to be used—that of the people themselves, and not a mystifying division into first, second and third-class land—was sanctioned in Second Secretary's letter No. 5532R., dated the 30th September 1913.

The leases of the last batch of the jangalburi mahals consisting of 25 estates and covering an area of about 1·3 square miles fell in on the 31st March 1913, and they were resettled as usual by the Deputy Commissioner. The operation resulted in an increase of 1·59 per cent. in area and 16·85 per cent. in revenue. Progressive assessments have been allowed in cases of 10 leases in which the enhancement was considerable: in these cases the increase is to spread over 2 or 3 years according as it is below 100 per cent. or 100 and upward (*vide* Second Secretary's letter No. 2497R., dated the 12th June 1913). This finishes the resettlement of all the jangalburi mahals in the district, the term of which did not fall in at the time of the now expiring resettlement of the district. These estates, accordingly, now disappear as a separate class, though they are still differentiated by the assessment of the waste included in them at 8 annas or 4 annas per bigha according as they were formerly held under the special rules of 1864 or 1875; in the case of the ordinary *mirasdari* land waste now pays at the rate of 1 anna and 2 annas per bigha. The rates to be imposed on waste after 1915 will of course depend on the proposals of the Settlement Officer.

Sylhet:
(1) Nankar and other temporarily-settled estates.

5. The resettlement of the 2,450 Nankar Patwarigiri and other temporarily-settled estates in Sylhet made good progress during the year. Babu Tarini Charan Nandi, Extra Assistant Commissioner, who has been in charge of the operations from the beginning was relieved of all other work and placed in sole charge with a special establishment. The progress made is shown in the statement in Appendix A. The only items remaining to be completed were the submission of the assessment report, the preparation of katcha pattas in Habiganj, Sunamganj and Karimganj, revenue attestation and winding up. The important questions of *Malikana* and *Akrajat* were settled in last January and the Assistant Settlement Officer's preliminary rate report has been received since the close of the year. It is expected that this resettlement which, for reasons mentioned in paragraph 2 of my last annual report, has dragged on for a long time will be completed by February or March next.

(2) Jaintia parganas.

Mr. W. L. Scott, whose deputation to report whether there should be a revision of assessment in the Jaintia parganas has already been referred to, made exhaustive enquiries regarding the present economic condition of the parganas and submitted an elaborate and comprehensive report which was forwarded to the Second Secretary to the Chief Commissioner with my letter No. 457-191T., dated the 24th March 1913. As a result thereof orders have been issued for the inception of the resettlement operations from the next settlement year: Mr. Scott will be in joint charge of this work and the Cachar Settlement.

(3) Permanently-settled area.

The question of the survey and preparation of a record-of-rights for the permanently-settled portion of Sylhet district has been frequently discussed in the past, but no final decision was reached owing to conflicting opinions as to the difficulties likely to be encountered and uncertainty as to the actual requirements. In order to enable him to arrive at a decision in regard to this important question the Chief Commissioner summoned a conference in October 1912 of certain officers having special knowledge of the subject, and in accordance with the opinion of the conference asked the sanction of the Government of India to the undertaking in the first instance of experimental operations over a limited, but typical, area consisting of three parganas, Renga, Dakshinkach and Baraya, in the Sadr subdivision, covering an area of 94·6 square miles approximately. The Government of India have accorded sanction to this proposal in the Revenue and Agricultural Department letter No. 1268—316-2, dated the 15th August 1913, and settlement operations will be taken up from the field season of 1914-15. The area was selected by me in consultation with the Deputy Commissioner, Sylhet, the Commissioner, Surma Valley and Hill Districts, and the Director of Surveys, Bengal and Assam, and will, it is hoped, afford sufficient experience of the difficulties to be contended with and furnish a reliable basis for an estimate of the cost of a survey and record-of-rights for the whole district. Arrangements have been made to depute Mr. Gimson, I.C.S., the Settlement Officer-elect for the area, to be trained under the Settlement Officer, Dacca, in the system of settlement followed in the permanently-settled tracts of Bengal, and steps are being taken to have a register of estates prepared for the selected parganas in the present cold weather. During the field season the area will be traversed under the direction of the Director of Surveys and the plots will be ready by the beginning of the next recess.

I am in correspondence with the Commissioner, Surma Valley and Hill Districts, and the Civil Court authorities of Sylhet as to what should be the contents of the record-of-rights and the procedure to be adopted by the Settlement Officer in preparing it. The Assam law on the subject is contained in sections 40-42 of Regulation I of 1886: it is obvious, from a comparison of these sections with the detailed procedure laid down in Chapter X of the Bengal Tenancy Act, that a considerable amount of elaboration by means of rules is necessary before the work can begin. There is also the question of how to decide boundary disputes between Government and proprietors, which has not been provided for in section 23 of the Assam Regulation. These problems will, it is hoped, be decided before the beginning of rains.

Mr. Gimson will probably assume charge of the settlement on the 1st June 1914: I have nominated Babu Tarini Charan Nandi and Maulvi Latfar Rahman as his Assistant Settlement Officers: the former has had considerable experience of the problems likely to be encountered and the latter was until recently a Kanungo in the Mymensingh Settlement. A staff of one Settlement Officer and two Assistant Settlement Officers for a small area of 95 square miles may appear extravagant, and it is clear that, when the whole district is taken up, we must follow the Bengal system of employing Kanungos of a class much superior to our Supervisor Kanungos. But it is also clear that we must have a very reliable staff for this the first attempt to prepare a record-of-rights in a permanently-settled area under the Assam Land and Revenue Regulation, especially as the conditions of land tenure in Sylhet are unlike anything in Bengal or anywhere else, except perhaps those prevailing in Chittagong, and we have nobody in Assam of the standing or training of the Kanungo of Bengal. Hence I earnestly recommend a strong superior staff at this stage. The selection and training of men of the Kanungo type can be undertaken in a year or two during this experimental survey, which should be completed by 1917: it will then be possible to expand the staff and gradually spread the operations over the whole district.

PART II.—Land Records.

Mandals and patwaris.

6. There was no change in the sanctioned strength of mandals and patwaris for the province during the year. But since the close of the year one mandal has been added to the sanctioned scale for the Sibsagar district. The addition having been made in the 3rd grade, the sanctioned number in each grade now is:—1st grade 237, 2nd grade 698, and 3rd grade 238: the orders are that 60 per cent. in each district should be in the second grade and 20 per cent. in the first and third, respectively. The number actually entertained was 1,171 or two short, one in Goalpara and one in Lakhimpur. Strenuous efforts were made during the year to secure resident mandals for all the lots, and as a result the

number of recorders who now reside in their lots or have been exempted from residence under rule 5 of the Land Records Manual has increased by 83. The following statement gives figures showing the actual number of non-resident recorders in each district on the 30th September 1913 :—

Name of district.	Number of resident mandals and patwaris.	Number of non-resident mandals and patwaris.	Number of mandals and patwaris who have been exempted by superior orders.	Total.	Number of mandals and patwaris who have become resident or been exempted during the year under report.	Remarks.
1	2	3	4	5	6	7
Cachar	43	37	19	99	1	
Sylhet	53	5	11	69	2	
Goalpara	30	6	...	36	2	
Kamrup	232	42	26	300	18	
Darrang	112	11	23	146	53	
Nowgong	154	...	18	172	...	One dismissed for being non-resident.
Sibsagar	170	18	20	208	7	
Lakhimpur	106	22	1	129	2	
Garo Hills	5	7	...	12	...	
Total ...	905	148	118	1,171	85	

7. In some districts the non-resident mandals and patwaris have been given a fixed time within which they should remove to their respective lots and become resident on the pain of dismissal and in the others local candidates are, as far as practicable, being trained with a view to the replacement of the non-resident recorders by these men when qualified. It is clear that there is considerable room for improvement in Garo Hills, Kamrup, Cachar and Lakhimpur and to a lesser extent in Sibsagar and Darrang. In the Garo Hills and Cachar the proportion of non-residents is excessive and should be reduced without delay. I am afraid that it not unseldom happens that the rule of residence is really evaded by the erection of a hut which is rarely or never occupied. For example, Nowgong shows no non-residents, but a recent examination of the facts by the Deputy Commissioner in the field showed that the "residences" were never used as such in several lots. This is a matter which I am afraid that the Sub-Deputy Collectors are inclined to overlook out of kindness of heart or weakness, while they forget the evils of the result to the people. I hope that the Deputy Commissioners will continue to press for real residence: I am always prepared to sanction free-studentships in the survey school for poor candidates of backward localities to replace recalcitrants.

Supervisor Kanungos.

8. The sanctioned number of Supervisor Kanungos remained unchanged, *viz.*, 46 in the first grade and 25 in the 2nd grade besides the Mauzadar Kanungo of the Eastern Duars who receives Rs. 25 a month for the supervision of Land Records work in his mauza. General remarks on the Land Records establishment of the province will be found in paragraph 14. There was an improvement of the records in most of the sub-circles, but the great difficulty is that even energetic Sub-Deputy Collectors confine themselves too much to the recorders and leave the Supervisor Kanungo to himself. Their supervision, to be adequate, must extend to him as well and they must be above him and not dependent on him as is so often the case now. Taking them all round our Supervisor Kanungos are a very worthy and hard working set of men, but they labour from the defects usually apparent in men who have risen from the ranks, *i.e.*, they are often weak and are sometimes past their work when they are appointed.

Punishments.

9. During the year 823 mandals and patwaris in all were fined a sum of Rs. 1,270-14-8. The details by districts are given herewith :—

District.	Total number of recorders fined.	Fines imposed on recorders for—				Fines subsequently remitted.	Net amount of fines imposed.
		Absence without leave.	Delay in submitting papers.	Other causes.	Total.		
1	2	3	4	5	6	7	8
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Cachar	81	1 10 7	29 0 0	10 0 0	40 10 7	...	40 10 7
Sylhet	...	...	...	...	...	...	...
Goalpara ...	6	...	...	17 0 0	17 0 0	...	17 0 0
Kamrup ...	354	38 2 8	224 6 2	84 8 0	347 0 10	2 8 0	344 8 10
Darrang ...	154	39 8 0	53 8 0	110 12 0	203 12 0	...	203 12 0
Nowgong ...	52	...	40 0 0	27 0 0	67 0 0	...	67 0 0
Sibsagar ...	107	181 7 3	123 0 0	47 0 0	351 7 3	...	351 7 3
Lakhimpur ...	65	61 4 0	47 8 0	131 8 0	240 4 0	3 12 0	236 8 0
Garo Hills ...	4	...	9 8 0	0 8 0	10 0 0	...	10 0 0
Total ...	823	322 0 6	526 14 2	428 4 0	1,277 2 8	6 4 0	1,270 14 8

It will be seen that the number of recorders fined has decreased considerably since last year. This result, I hope, indicates a general improvement in punctuality and the quality of work, and not slack supervision. The average of the fines works to the same figure (Re. 1-8-8) as in the preceding year.

No fines were imposed upon the Supervisor Kanungoes during the year and in no case was the field allowance reduced or withdrawn. But one Supervisor Kanungo in Sylhet was reduced to patwariship on account of bad work and one Supervisor Kanungo in Sibsagar had to be removed from the service for fudging and slackness.

Travelling allowances of subordinate staff.

10. The amounts drawn as travelling allowance by Supervisor Kanungos and mandals and patwaris were Rs. 1,309-2-1 and Rs. 1,432-2-11, respectively : these amounts show a considerable increase in either case over last year, which is presumably a sign of greater activity. There should be a very considerable increase in the next year, owing to the important innovation of granting halting allowances during the recess which is referred to below amongst the reforms introduced.

Sylhet naturally heads the list on account of the very extensive and scattered areas included in the lots of the Ilam patwaris, but the amount drawn by Supervisor Kanungos in Lakhimpur seems to be excessive and the Deputy Commissioner will be asked to explain.

Name of district.	Travelling allowance drawn by Supervisor Kanungos.	Travelling allowance drawn by mandals and patwaris.	Remarks.
1	2	3	4
	Rs. a. p.	Rs. a. p.	
Cachar	51 4 3	55 9 9	
Sylhet	468 12 7	529 3 6	
Goalpara	51 0 0	112 0 0	
Kamrup	215 14 3	135 14 5	
Darrang	...	12 10 0	
Nowgong	73 12 6	309 4 6	
Sibsagar	70 15 0	51 5 0	
Lakhimpur	306 5 6	92 0 3	
Garo Hills	71 2 0	134 3 6	
Total	1,309 2 1	1,432 2 11	

Sub-Deputy Collectors.

11. The work done by each of the Sub-Deputy Collectors in charge of Land Records work is briefly shown in Appendix B. A comparison with Appendix B of last year, when this statement appeared for the first time, will show what a considerable improvement has occurred: this is only what might have been expected from the closer departmental supervision which is possible in a small province like Assam. But there is still room for further improvement on the part of a number of Sub-Deputy Collectors.

I consider the best five in order of merit, based on the work done during the year, to be Maulvi Abdur Rashid, Babu Pramod Chandra Sen Gupta, Babu Surendra Nath Dutta, Babu Mohendra Kumar Dam and Babu Kamini Mohan Datta. The work of Maulvi Abdur Rashid, Sub-Deputy Collector in the Eastern Duars of Goalpara, was most satisfactory. Besides the work shown in the appendix he had 88·71 square miles traversed, 64·51 square miles cadastrally surveyed, and the areas of the old dags of his circle re-extracted. The work in the Surma Valley was distinctly good, in Goalpara very good, in Darrang good, in Nowgong good to fair, in Sibsagar good to poor and in Lakhimpur good to fair: I consider that the work of the following officers was middling or poor and that, unless they improve, the question of their promotion should be considered, in accordance with the orders in paragraph 6 of the Chief Commissioner's Resolution in last year's report:—

(1) Srijut Bipin Chandra Bardalai, Chaygaon.

(2) Srijut Bholanath Kakati, Moriani.

(3) Srijut Annada Charan Bhattacharjee, Nazira.

The first named was appointed Sub-Deputy Collector in last March and probably his inefficiency was due to inexperience, but there is no excuse for the other two. Amongst the Sub-Deputy Collectors who could show considerable improvement I might mention Babu Srish Kumar Sen, Srijut Hari Prasad Das, Srijut Jagannath Bujar Barua. I notice with regret that Srijut Gunahash Goswami has been posted to Moriani Circle: he is a most worthy gentleman and I have every respect for him, but he is not an efficient Land Records Officer.

One of the great drawbacks just now is that Assam started in 1912 with a large number of vacancies in the cadre of Sub-Deputy Collectors and more than a fair share of juniors. I see from the Civil List of 1st October 1913 that there were five Sub-Deputy Collectors in charge of Land Records work who were appointed in 1911, three who were appointed in 1912 and four appointed in 1913. It is impossible to expect good work from very junior men: last cold weather I found two Sub-Deputy Collectors in charge of circles who were trying to learn survey and recording from their own Kanungos: one was a probationer on Rs. 50 per month who not alone could not afford to live on his pay, but, as he recieved twelve annas daily allowance and had to pay two rupees for a cart for his baggage, lost Rs. 1-4 every day he went on tour, and he was compelled to tour 175 days in the year. I found, more particularly in the Brahmaputra Valley, that the main and only object of every Sub-Deputy Collector was promotion to the Provincial Executive Service. They dislike living in the mufassil, the touring and the character of their work; they look with envy on their class-fellows who were lucky enough to obtain direct appointment to the superior service, though they had no better qualifications; the only reason which makes most of them work at all is that they know that therein lies their only hope of salvation from their present fate. This expresses the opinion of practically every Sub-Deputy Collector I met. The moral I should like to suggest is that appointment to the Provincial Executive Service should be through the Subordinate Service, if not entirely at least oftener than it is now: but I would make it a rule that no Sub-Deputy Collector be promoted except after ten years' service. There is no getting beyond the fact that the average young graduate of this province does not like living in the mufassil, riding a pony, dealing with the common herd composed of the raiyat and the mandal or patwari, and incidentally dragging a chain over paddy fields or more probably, supervising the latter operation: it is lamentable, but true. With the prospect of promotion after ten years' good work, they would be much more likely to devote themselves to Land Records work with greater energy than they do now.

Progress of survey.

12. In Appendices C and D will be found statements showing the progress of survey. Of these two, Appendix C was introduced in Eastern Bengal and Assam and is mainly intended to show the progress of survey and of the preparation of records-of-rights in permanently-settled districts. Appendix D is an old Assam return and shows the progress of the survey by local agency in "extension" of the cadastral survey completed by professional

parties. It is a matter of absolute certainty that no cadastral survey will ever be done again by professional parties : the latter are at present restricted to traverse and may be relieved of the field work of the latter if the intention of the Director of Surveys, to train picked men of the Land Records staff in the use of the theodolite, reaches fruition. Hence Appendix C might very well in future be confined to the districts of Sylhet and Goalpara, which are mostly permanently-settled, while Appendix D may remain unchanged and include Sylhet and Goalpara, which contain large areas of temporarily-settled land of which part remains to be surveyed in " extension."

On the 30th September 1913 according to Appendix C the maps and records were either complete or under preparation in 26·01 per cent. of the area against 25·73 per cent. in last year. As in the previous report the total area includes large stretches of waste land for which detailed maps and records-of-rights are not yet necessary. The most important portion of the outstanding area consists of 6,353 square miles of permanently-settled land in Goalpara and Sylhet. As already mentioned in paragraph 5 (3) sanction has been obtained to the experimental survey and preparation of a record-of-rights for 3 parganas comprising an area of 94·6 square miles in the Sadr subdivision of Sylhet. Appendix D shows that in the last year extension surveys were carried out in 6 districts, the actual area surveyed being 106 square miles. The largest area surveyed, 65 square miles, was in the Eastern Duars. In this tract 140 villages covering an area of 156·27 square miles were traversed in the field seasons of 1911-12 and 1912-13 by the Survey Department and by the mandals trained in the use of theodolite. The latter traversed an area of 88·71 square miles and did the cadastral survey of 65 of the villages covering an area of 65 square miles under the immediate direction and supervision of the Sub-Deputy Collector, Maulvi Addur Rashid, whose good work has been already mentioned. He and his Supervisor Kanungos ran 154·61 miles of check lines. More would have been done but for the delay in receiving traverse sheets, the first instalment of which reached him as late as 18th February 1913. A small area still remains to be traversed in mauzas Guma and Ripu. The traverse and cadastral survey of this area as well as the cadastral survey of the area outstanding from the last season have been included in the coming year's programme which, as mentioned already, will probably have to be postponed on account of the Sub-Deputy Collector's illness.

Extension survey was also done on a fairly extensive scale in Darrang and Sibsagar. In the coming year I have arranged for extension work in Karimganj, mainly in Hakaluki Haor ; the cadastral survey of 18·75 miles in Kamrup, which was traversed last season, will also be started.

Maintenance of records.

13. Endeavours continued, as usual, to keep the records up to date mainly in the field. The statistics of mutations done during the year are given in Appendix E. The figure in column 2 for Cachar in last year's report was incorrect owing to the return of wrong statistics from Hailakandi.

As remarked in the last report, the percentage of mutations to pattas is much larger in the Surma Valley than in the Brahmaputra Valley, the percentages for the two valleys being 35·45 and 5·91, respectively. A part of the cause of this vast difference lies, as explained last year, in the preponderance of *ijmali pattas*, especially in the Jaintia Parganas, in the Surma Valley, but there is also no doubt that the denser population of the latter area adds considerably to the pressure on the soil and consequently both to the value of land and its more frequent transfer. At the same time my visit to the Surma Valley in last cold weather resulted in a stimulation of mutation work, which is reflected in the present figures. Reference was made in paragraph 9 of the report for 1911-12 to column 17 of the form of the abstract diary for Sub-Deputy Collectors. The Commissioner, Assam Valley Districts, concurred with me that the column was incorrect and misleading, and it has consequently been omitted (*vide* Khan Bahadur Maulvi Muhib-ud-din Ahmad's letter No. 791R., dated the 28th February 1913). I hope that all Sub-Deputy Collectors now understand what is meant by "local" verification and that we shall hear no more of "armchair" work done in a rest-house at a considerable distance from the village. I am afraid, however, that sufficient attention is not paid to Mr. Bell's Circular No. 694-700T. of 3rd February 1911, which prescribed that the Sub-Deputy Collector should go through the jamabandis in the presence of the villagers in order to test whether transfers have been noted by the mandal or patwari. I beg to bring this order again to notice.

State of Land Records.

14. I inspected Land Records in the field in Silchar, Hailakandi, Jaintia parganas, Eastern Duars of Goalpara, all the seven circles of Kamrup, both circles of Mangaldai, the Sadr circle in Tezpur and the three circles of Dibrugarh. I was unable to complete my programme

of visiting Nowgong, Sibsagar and North Lakhimpur on account of urgent work connected with the Agricultural Department. My inspections were mainly confined to the field, where alone it is possible to discover what actually happens.

I was particularly interested to find in the Surma Valley that transfers are nearly always of individual fields; though this custom is prevalent not alone in the temporarily-settled, but also in the permanently-settled area (as noted by the late Mr. Savage, Member of the Board of Revenue, Eastern Bengal and Assam) I found that in Jaintia the patwaris persisted in showing so many annas of the patta as transferred. This perversity, which compelled the patwari to make elaborate calculations deducing the share from the area of the fields transferred, must, I think, be attributed to the efforts—vain as far as Sylhet was concerned—of the Bengal Board of Revenue in the sixties and early seventies to apply the procedure prescribed in Bengal for the preparation of the General Register of Estates. The patwaris were convinced that they were acting correctly and the Sub-Deputy Collectors, who had been trained in Bengal, accepted the practice. It is clear that the system of showing only the share of the estate transferred is the only possible system in the absence of a field survey, but when we have the latter the share system is distinctly retrograde and worse than useless, for it results in a needless accumulation of *ijmali* pattas and is in direct opposition to our chief object in maintaining the record, *i.e.*, to have it up to date at the conclusion of the settlement period and so save a large expenditure in re-settlement. It is lamentable that the suggestion of the last Settlement Officer of Jaintia to break up the *ijmali* pattas was not accepted, though a similar proposal was accepted in Cachar subsequently.

In the Surma Valley the greater part of the available land is already settled and the work of the staff consists mainly in keeping the record up to date and compiling crop statistics. I was on the whole well satisfied with the state of the work. The results of my inspections in other districts confirm the opinion of my Land Records Assistant, whose note I reproduce herewith:—

NOTE BY THE ASSISTANT DIRECTOR OF LAND RECORDS.

I was in charge throughout the whole year under report and was out on tour for 289 days including 33 days spent in Shillong. I examined the records of 606 mandals in 21 circles and 36 sub-circles and ran 12·33 miles of check lines. A summary of the results of my inspections in the field and in the office is given below from which it will be seen that in the majority of the circles the condition of the records showed some improvement while in others the improvement, if any, was almost imperceptible. It is to be regretted that, in spite of severe criticisms which the unsatisfactory state of the records had evoked in the preceding two years, a beginning only has been made to improve them and that some of the Circle Officers have not yet realized the importance of the work. I should, however, note here that the amount of testing done in the field by some of the Sub-Deputy Collectors and Kanungos was all that could be desired, but unfortunately they did not realize the fact that the examination of the records, apart from the testing done in the field, formed also an important branch of their duties. The Circle Officer and the Kanungo have enough time at their disposal during the summer recess to check the records of each mandal in a thorough and systematic way. They should remember that unless this is done the records will never be free from mistakes. In the case of the villages where changes are rare such a check will involve very little labour or loss of time. It should be noted here that the larger proportion of the villages are of this character. Greater attention is required only in those villages where the changes are common. If in the heavy *lots* the work cannot be finished in one year, it could certainly be done in two years. Once the records have been thus checked and the mistakes which had been accumulating owing to past neglect eliminated, the work of maintaining them in proper order will be an easy thing; the only precaution required against similar mistakes finding their way into the records in the future will be to carefully check the new changes as they take place every year. I have been insisting on this procedure being adopted for some time past, but I regret to find that most of the officers prefer to do the work in a haphazard way, checking only a very small percentage, if any, of the new entries and thus allowing mistakes a chance of escape in case of the larger proportion of the entries. This, I believe, is the main cause of the existence of the many mistakes which are brought to light at my inspections every year. There is another point to which I think it necessary to draw attention. I have often found that annual fields are converted into periodic without their area and classification having been previously checked, and that there appears to be an impression among the staff that once a field is settled on a periodic lease, it is not necessary to check and correct it. The mistakes discovered by me from time to time in the newly-settled periodic fields are attributable to a large extent to this wrong impression. The Sub-Deputy Collector ought to know that the very fact of field having been converted into periodic does not divest him of the responsibility which lies on him for its correctness.

Tengakhat Circle—in charge of Maulvi Fazlar Rahman:

Lakhimpur.

There had not been many changes in the records owing to the district having been recently resettled. What there had been was found in tolerably fair condition. The majority of the mandals were not conversant with the provisions of the Land Records Manual. Due attention had not been paid to inspection of crops and classification of land newly taken up. The mandals were in need of more strict supervision.

Tinsukia Circle—in charge of Srijut Debananda Bharali:

The records contained very little changes owing to their having been only recently received from the Settlement Officer on the completion of the resettlement operations. The comparison of the faired

copies of the chithas had not been properly carried out. The results of my testing in the field were satisfactory. Due attention appeared to have been paid to inspection of crops and survey marks. The supervision exercised by the Sub-Deputy Collector and the Kanungos was on the whole fairly good.

Kamargaon Circle—in charge of Srijut Achyutananda Pathak :

Sibsagar.

The records did not appear to have been carefully checked, as suggested at my last inspection, and many mistakes in area calculation and land classification were again discovered. The mistakes and irregularities discovered by me last year had been rectified except in one mandal's lot, where certain mistakes pointed out by me still remained. Mutation work was found fairly up to date. The amount of field work returned by the Sub-Deputy Collector and the Kanungo appeared to be satisfactory.

Sibsagar Circle—in charge of Babu Srish Kumar Sen :

Some improvement in the condition of the records was noticed, but not to the extent expected in consideration of the fact that they had been found in a most unsatisfactory state at previous inspections. The records had not been checked carefully, as I had sugested, and many mistakes and irregularities were again found. Mistakes pointed out by me at the previous inspection remained unrectified in many cases. Inspection of survey marks had been carried out with care. There were heavy arrears of mutation work. In the course of my local verification in 9 villages in 4 lots in the western sub-circle I found no less than 12 per cent. of the pattas standing in the names of persons who had been dead years ago. In Sibsagar sub-circle a large number of mistakes in posting mutation corrections was detected.

Jorhat Circle—in charge of Srijut Khageswar Barua :

The records showed some improvement, but not having been checked properly mistakes in land classification and area calculation were again found, specially in the Majuli sub-circle where attention had been paid only to checking the area calculation, while the more important part of the work, namely the land classification, had been entirely neglected : attention had been paid to inspection and maintenance of the survey marks. Mutation work was found fairly up to date.

Golaghat Circle—in charge of Babu Krishna Behari Chaudhuri :

The records showed a slight improvement, though certain irregularities and omissions noticed by me in the southern sub-circle last year had not been mended. The records had been checked as suggested by me at my last inspection, but the work did not appear to have been done carefully. The Sub-Deputy Collector and the Kanungo had not tested the crop entries in the northern sub-circle in the field at all with the results that inspection of hot weather crop had been neglected by the mandals.

Behali Circle—in charge of Srijut Kamal Chandra Kakati :

Darrang.

The extension survey taken up proved to be too much to be properly coped with by the staff and admittedly interfered with the inspection of crops and survey marks and the survey of new land for the regular settlement. The suggestion left by me last year to have the records systematically checked had not been carefully carried out. Mutation work was not found quite up to date in the Sutia sub-circle.

Kalaigaon Circle—in charge of Srijut Tarini Charan Surma :

The records of the Bengbari sub-circle were in a somewhat better condition than those in the Kalaigaon sub-circle, but my test measurements brought to light bad survey mistakes in both and plots of land which had escaped assessment for some years in the latter sub-circle.

Mangaldai Circle—in charge of Srijut Umacharan Gohain :

The results of my check lines were fairly good. The supervision exercised and the testing carried out by the Sub-Deputy Collector and the Kanungos were satisfactory. The condition of the records showed marked improvement. The orders regarding the assessment of new land in the fluctuating areas in the subdivision were not understood by the staff and in consequence wrong assessment had been made in many cases.

Tezpur Circle—in charge of Rai Saheb Betharam Sarma :

The records on the whole were found in fairly good condition barring a number of mistakes which were brought to light during my examination. The Land Records work had been efficiently supervised by the Sub-Deputy Collector.

Roha Circle—in charge of Maulvi Azimuddin Ahmad :

Mowgong.

The records on the whole were found in somewhat better condition than in the previous year and the results of the test measurements tolerably fair. The field work of the mandals appeared to have been properly supervised by the Kanungos and the Sub-Deputy Collector. But a large number of mistakes were again discovered by me as in the last year in Chaparmukh and Dharamtal sub-circles, and certain mistakes pointed out by me at the previous inspection remained uncorrected in the latter sub-circle. Mutation work appeared to have been kept all up to date.

Dhing Circle—in charge of Maulvi Talmizur Rahman Chaudhuri :

Some improvement in the condition of the records was noticed. Due attention had been paid to the inspection of crops and the survey marks. A certain amount of check of the records had been carried out as suggested by me last year, but the work did not appear to have been done very carefully as a large number of mistakes were again discovered by me. The results of check lines run by me in the Hatichung sub-circle were good. The amount of testing carried out by the Sub-Deputy Collector and the Kanungos had been fairly satisfactory.

Hill Circle—

The circle is in charge of a Supervisor Kanungos and the work is suffering from want of more intelligent supervision. The Sub-Deputy Collector of the Dhing circle had been deputed to supervise the work for some time during the year under report. The wrong assessment of land in certain mauzas pointed out by me at the previous year's inspection and for the correction of which the Hon'ble Mr. Beatson Bell, the then Director of Land Records, had issued definite instructions, remained still unrectified.

Silghat Circle—in charge of Srijut Jagannath Bujar Barua:

The records were found in much better condition than what I had seen at my preceding inspection, though there was still much room for further improvement as my examination brought to light again mistakes in area calculation and land classification. The supervision exercised by the Sub-Deputy Collector and the Kanungos was fairly good.

Kamrup.

Nalbari Circle—in charge of Babu Chandra Kanta Sen Gupta (since transferred to Bengal):

I inspected the work of only the Baroma sub-circle and found the records in fair condition. No serious errors were found in the field work, but a large number of mistakes, mostly in land classification, was discovered by me. I carried out local inspection and found the mutation work fairly up to date.

Bojali Circle—in charge of Srijut Surjyakanta Barua:

The records had been only partially checked after my last inspection though there was urgent need of check in every lot. A large number of mistakes were again found by me. The Sub-Deputy Collector and the Kanungos appeared to have exercised proper supervision over the mandals' field work. Mutation work was found well up to date.

Kamalpur Circle—in charge of Srijut Tarini Charan Chaudhuri:

I inspected the work of only the Hajo sub-circle. The records had been carefully checked as suggested at my last inspection. They showed marked improvement in their condition. The field work of the mandals had been well supervised by the Sub-Deputy Collector and the Kanungos.

Gauhati Circle—in charge of Srijut Janaki Nath Das:

The records were being gradually checked since my last inspection, but evidently not in a very careful manner, as I again discovered many mistakes in the very records which were said to have been checked. Mutation work appeared to have been kept well up to date, but the Registrar Kanungo had been grossly neglecting his duties in connection with the carrying out of the mutation corrections in the registers.

Barpeta Circle—in charge of Srijut Surendranath Gohain:

The records on the whole were found in fairly good condition. Rather a large number of mistakes in area calculation and land classification was found, which were due to the mandals having altered the classification of the fields fixed at the resettlement on their being retaken after relinquishment, and to their neglect to correct the area of fields the survey mistakes of which had been rectified by a resurvey.

Eastern Duars Circle—in charge of Maulvi Abdur Rashid:

Goalpara.

The inspection of hot weather crops had not been properly carried out: since the discovery of the mistakes in area calculation at my previous inspection the records had been systematically checked except in Bijni sub-circle, where very little attention had been paid to my suggestion to that effect. The amount of testing done by the Kanungos in the field was satisfactory

Inspection of Land Records by district staff.

15. The orders issued by the Chief Commissioner in paragraph 6 of the Resolution on last year's report appeared too late for much to be done: the Resolution is dated the 11th March 1913, by which time the greater part of the field season had gone. This drawback is no longer in existence and I hope that very much better results will be found next year. No inspections were made by the district staffs of the Surma Valley. In Cachar both Mr. Scott and I made a thorough examination of the records in every part of the district: this and the approaching resettlement, no doubt, made much other inspection unnecessary. In Sylhet I presume that the Deputy Commissioner was too busy, but I distinctly think that the four Subdivisional Officers should have done something, and I would suggest that either the Deputy Commissioner or the Additional Magistrate should in future endeavour to spend some time in the cold weather on Land Records inspection in Jaintia and similarly the Subdivisional Officer of Karimganj in the temporarily-settled tract of Partabgarh. In the Assam Valley the best work was done by Major Playfair, Deputy Commissioner, Sibsagar, whose energy was disturbing to many of the staff; but the Subdivisional Officers of Sibsagar and Golaghat might have done a good deal more. In Kamrup six mandals were inspected by the Deputy Commissioner and 48 chains of check line run: this is inadequate, but the late issue of the orders and the departure of Mr. Colquhoun on leave furnish an adequate explanation: the same remarks apply to the Subdivisional Officer, Barpeta. In Darrang a fair number of mandals were inspected, but no details are given of what the inspection amounted to. In Nowgong both Mr. Clarke and Mr. Dawson seem to have paid a fair amount of attention to Land Records: a recent

inspection note of the latter showed excellent work. In Lakhimpur both Colonel Herbert and Mr. Parry did a fair amount of inspection and the Subdivisional Officer, North Lakhimpur, did a little. The Deputy Commissioner, Garo Hills, reports that he has no time for inspecting Land Records in the plains, because his touring is mostly in the hills : I would suggest that some touring in the plains portion is essential, as it is included in the district.

Survey marks.

16. Appendix F contains the results of the inspection of survey marks in the province. I regret to say that the totals shown differ from those shown last year in most districts, but the only explanation comes from Kamrup. There is an increase in the total number of marks reported, which is due to increases in the number found in good order, in the number repaired, and in the number lost or uninspected, and may presumably be attributed to more careful supervision. But it is clear that some explanation of the discrepancies should have been submitted. As my report is due so soon after the close of the year, I have no time to enquire into this matter, but bring the matter to notice here so that action may be taken at least in the coming year.

Survey Schools.

17. The three Survey schools continued to work as before. During the year 5 men obtained first-class certificates and 108 men obtained 2nd-class certificates. Of these men, 27 were relations of recorders or prospective recorders in backward localities. The scheme for the establishment of a Survey school of an improved status under the Director of Surveys received sanction and the school will be opened this month on the Gauhati-Palasbari road about two miles from Pandughat station for the training of officers only. Its full work will begin from 2nd January 1914 when the existing schools will be abolished and their duties as well as the staff will be taken over by that school. Babu Prabhat Chandra Saraswati, Survey Master, Gauhati Survey School, retires from service from that date. This officer held the charge of the school from its establishment and managed it ably and most satisfactorily throughout. Besides the certificates granted at the school examinations, 3 first-class and 1 second-class certificates were granted under rules 13 B and 13 C of the Land Records Manual to 1 mandal and 3 candidates who did good work in extension survey.

A statement is given herewith showing the cost of maintaining these three schools :—

Statement showing the cost of the Survey School and the number of pupils who passed during the year ending the 30th September 1913.

Name of Survey School.	Year.	Number of pupils who received first-class certificates.				Number of pupils who received second-class certificates.				Total passed.	Total cost of the school.	Total receipts.	Net cost.	Average net cost of each passed pupil.	Number of outside candidates who received first-class certificates.	Number of outside candidates who received second-class certificates.	Relations of recorders or prospective recorders in backward localities.
		Mauzadars.	Mandals and patwaris.	Candidates.	Total.	Mauzadars.	Mandals and patwaris.	Candidates.	Total.								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
											Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.			
Silchar ...	1912-13	...	...	4	4	...	...	57	57	61	1,130 3 11	690 5 0	439 14 11	7 3 5	4	34	3
Gauhati ...		...	...	...	...	...	...	23	22	22	772 6 10	466 14 0	305 8 10	13 14 3	...	6	3
Dibrugarh		...	...	1	1	...	...	29	29	30	634 3 11	332 4 0	301 15 11	10 1 1	...	4	21
Total ...		...	...	5	5	...	...	108	108	113	2,536 14 8	1,489 7 0	1,047 7 8	9 4 3	4	44	27

PART III—Miscellaneous.

18. The results of my inspections in last year enabled me to propose some reforms, which are detailed herewith :—

Changes and reforms.

(*a*) Perhaps the foremost of these was the proposal to remove the hardship inflicted on the village recorders during their attendance at district headquarters for recess work. This question was referred to in my last report. In Eastern Bengal and Assam the Director of Land Records proposed to the Board of Revenue that *bashas* should be provided at all circle-headquarters for the accommodation of the staff during the two recesses. But the Board, after receiving lists of district requirements, were reluctant to pass any general order in view of the expense. I went into this question in course of my tour and discovered that the general proposal to build temporary quarters at every place would not only be too expensive, but would also fail to meet the difficulty in all cases, inasmuch as in case of recorders who recess at district headquarters and whose houses are not near enough to enable them to return to them daily, the difficulty actually lay not so much in the want of accommodation as in the costliness of living in towns. I therefore consulted the Commissioners and Deputy Commissioners in the matter, and in Second Secretary's No. 5465R., dated the 24th September 1913, sanction was accorded (1) to the grant from the next financial year of halting allowance at the rate of three annas per diem, limited to a total period of 8 weeks in the year, to those recorders recessing at district headquarters who live more than 5 miles away and are not provided with accommodation and (2) to the construction of temporary quarters at the following circle-headquarters :—Patharkandi, Kanairghat and Gowainghat in Sylhet, Kamalpur and Chhaigaon in Kamrup, Kalaigaon and Behali in Darrang, Moriani in Sibsagar and Tinsukia in Lakhimpur: in these places, owing to the existence of large settlement of coolies or other causes, the recorders can find no accommodation. No doubt the time will come when accommodation will be provided at all recess headquarters in the mufassil, but the most difficult places have now been dealt with.

(*b*) I mentioned in paragraph 14 of my report for 1911-12 the reduction in the pay and position of the Registrar Kanungos as a result of the Ministerial Officers' Commission and the fact was noticed in paragraph 8 of the Chief Commissioner's Resolution thereon. In accordance with the concluding portion of that paragraph proposals were submitted with the concurrence of the Commissioners during the year for the improvement of the status of the clerks who are appointed as Registrar Kanungos in the most important subdivisions (*vide* letter No. 521-4553, dated the 12th September 1913, to the Second Secretary). The matter is now under the consideration of the Chief Commissioner.

(*c*) The field allowances granted to the Supervisor Kanungos in various districts under rule 121 of the Assam Land Records Manual were first introduced in 1902-03, when the total amount allotted for the purpose was limited to Rs. 4,000 (*vide* Government of India's letter No. 1698-368-2, dated the 4th November 1902). The numbers of allowances on Rs. 10 and Rs. 5 each were fixed at 10 and 46, respectively (*vide* Secretary to the Chief Commissioner's No. 91Budget-585F., dated the 8th April 1903). The number of ten-rupee allowances was subsequently raised by one. The allowances are awarded for meritorious work and have proved very beneficial in giving the Supervisor Kanungos an impetus towards greater energy. But since the issue of these orders the number of Supervisor Kanungos has increased by nine in four districts, where the allowances allotted are now neither sufficient nor in proportion to those allotted to the other districts. Moreover in my opinion the sanctioned number of field allowances on Rs. 10 is inadequate in most districts. When the scale was sanctioned, the present system of field mutation was not initiated and so much stress was not laid on the inspection of survey marks, *chitha* entries, check of relinquishments and *faut ferar* and *jotrahin* exclusions. In fact the introduction of the Land Records Manual in 1905 and the subsequent elaboration of its rules have added very materially to the work of the Supervisor Kanungos. Proposals have therefore been submitted in my letter No. 584-3145, dated the 4th July 1913, for an increase in the total number of allowances and in those on Rs. 10 and are under the consideration of the Chief Commissioner.

(*d*) A matter of some importance to this Department was the revision of the form of mutation register by Second Secretary to the Chief Commissioner's letter No. 2622R., dated the 31st October 1912. This order reduced the number of returns containing the results of mutations effected in the province. These were exhibited in three district returns, *viz.*, Table E of the Agriculture Statistics, Appendix IX-B to the Land Revenue Report and Appendix E to my report, which all purported to deal with different years; but in fact the figures were taken from the same source—the Registrar Kanungo's mutation register—which deals with the settlement year, and were in two out of the three cases out of date. The orders now make the year of Table E correspond with the settlement year and the form is so devised as to enable the collection of materials for both the table and the appendix to this report. The appendix to the Land Revenue Report has been abolished.

(*e*) The form of abstract diary for Sub-Deputy Collectors prescribed by the Board of Revenue, Eastern Bengal and Assam, was referred to in paragraph 9 of my last annual report and the alteration made in it has already been mentioned in paragraph 13. The Board's order prescribed the form for the Assam Valley districts only. But as the form is very useful in showing conveniently the work done by the Sub-Deputy Collector, I introduced it in the Surma Valley also in course of my inspections.

(*f*) In connection with the inspection of Survey and Settlement operations in permanently-settled tract of Sylhet, necessity arose for the framing of rules under sections 27 and 152 of the Assam Land and Revenue Regulation for the recovery of the cost of survey and demarcation of any local area or class of estates. A set of rules for this purpose was drafted and submitted to the Second Secretary to the Chief Commissioner with my letter No. 455-4511, dated the 10th September 1913. They are now under the consideration of the Chief Commissioner.

(*g*) Rule 88 of the Land Records Manual has now been amended so as to correspond with facts, *vide* correction slip No. 26 of August 1913. This rule refers to the calculation of bigha rates in districts which have been resettled on the soil unit system.

(*h*) Of the draft revised rules under sections 12, 29, 33(2) and (3), 34(*c*) and 40 of the Land and Revenue Regulation, reference to which was made in the preceding report, those under sections 29, 33(2) and (3) and 40 were published under section 157 of the Regulation for criticism with Revenue Department Notification No. 4197R., dated the 9th September 1913, and are about to be brought to force.

(*i*) Stress was laid on the importance of inspection of Land Records work by District and Subdivisional Officers in the concluding portion of paragraph 6 of the Resolution on the last report. The inspection of Land Records by superior officers formed a subject of consideration in Eastern Bengal and Assam also and the Commissioner, Assam Valley Districts, was asked to draw up a list of questions for inspecting officers to answer. The list was made out and circulated for opinion during the year. But inspection by answering questions seemed unsatisfactory and hardly suitable to gain the desired end, and it was, therefore, decided that a list of the most important points to be attended to, both in office and in the field, should be drawn up and published. A list of these points were accordingly made out by my Land Records Assistant and was submitted for approval of the Chief Commissioner with a view to its issue as an appendix to the Land Records Manual.

(*j*) A reform of minor importance was the revision of the form of *chitha* which was found very inconvenient for use in the field owing to its size. The revision involved reduction in size only. The new form will be available when the present stock of old forms is exhausted.

Settlement training.

19. The rules for the training of officers in survey and settlement work, which were revised in 1911-12, were published with Notification No. 3127A., dated the 30th June 1913, and a number of officers—Assistant Commissioners, Extra Assistant Commissioners and Sub-Deputy Collectors—have been deputed to undergo training in survey at Gauhati and in settlement in Cachar this cold weather. The training in survey work will be under the Director of Surveys. The training in settlement will be under the Settlement Officer, Cachar, and my Land Records Assistant.

Charge and tour.

20. I was in charge of the Department throughout the whole year, and spent 160 days on tour. I have already referred to my inspections. The inspections of Rai Bahadur Radha Kanta Handiqui have also been mentioned. I take this opportunity of recording my high opinion of his care and accuracy. I am much obliged to my Personal Assistant, Babu Chandra Nath Sarma, who has a thorough knowledge of both the Land Records and Agricultural branches of my office and has been most helpful in many ways.

Date for report.

21. This report is due to the Secretariat on the 15th November, *i.e.*, within six weeks of the end of the year which it reviews. Not alone is this interval inordinately short, but it always includes the period of twelve days when all offices are closed for the Durga and Kali Pujas. The result is that not alone my office, but all district offices are very hard pressed to compile the necessary material and it is only by the most strenuous efforts that I am able to comply with the present orders. The present date was fixed in letter No. 304 S. & S.-G., dated the 29th July 1907, from the Board of Revenue, Eastern Bengal and Assam, presumably on account of the unavoidable delay caused by the intervention of the Board between the Director of Land Records and the Secretariat; the report is not due to the Government of India until 15th February. The only year since the orders were passed on which the Land Record report was despatched in time was last year, when I submitted it without statistics from Sylhet. I am actually writing this on the 14th November, but it will take some days to type the report. I would accordingly suggest that the date be postponed to the 15th December. This will give 2½ months from the close of the year—the same period as is allowed for the Agricultural Department, but in the latter case there are no intervening holidays.

J. McSWINEY,

Director of Land Records and Agriculture, Assam.

APPENDIX A.

Progress of resettlement work in Assam during the year ending 30th September 1918.

Name of district.	Number of villages.										Expenditure during the year.
	Correction of maps and records.		Soil classification.		Record attestation.		Revenue attestation.		Submission of rate report.		
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	
1	2	3	4	5	6	7	8	9	10	11	12
Sylhet (Nankar, etc.) ...	518	518	1,140	1,140	1,140	1,140	...	...	...	...	...

APPENDIX B.

Work statement of Sub-Deputy Collectors for the year ending 30th September 1913.

Name of circle or Subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaris in the circle.	Number of mandals or patwaris whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitta* entries tested.	Number of *chitta* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CACHAR.															
Silchar ...	Babu Mohendra Kumar Dam	85	25	294*	164	...	...	8,264	460	125	6,451	745	Munshi Basir Ali Babu Jogesh Chandra Mitra.	Good	* Including 40 grants.
	Maulvi Mahammed Ali ...	45	45	543†	369	13	2·43 miles.	3,126	101	300	7,880	751	Babu Syama Charan Guha. „ Ram Doyal Chakravarti. Munshi Khurshed Ali „ Basarat Ali.	Satisfactory ...	† of these, 61 are uninhabited and 88 villages are grants.
Hailakandi ...	Babu Rajani Kanta Gupta (from 1st to 31st October 1912).	29	29	276	5	...	...	...	...	...	...	...	Babu Dina Nath Gosh „ Ram Moti Mukherji.	Satisfactory.	
	Babu Kamini Mohan Datta (from 1st November 1912 to 30th September 1913.		29		215	...	·50 miles.	356	...	18	8,004	152			
SYLHET.															
Habiganj ...	Maulvi Derajuddin Ahmed (Ilam) (from 1st October 1912 to 7th June 1913).	2	2	324	10	...	82-13	...	...	...	...	...	Babu Janaki Nath De „ Padma Lochan Das (offg. from 1st Oct. 1912 to 1st June 1913). Babu Prakash Chandra Datta (offg. from 4th June 1913 to 13th July 1913). Munshi Abdul Khalique (from 14th July 1913 to 30th Sep. 1913).	... ...	
	Babu Surendra Nath Chaudhuri (Ilam) (from 8th June to 30th September 1913).		2		4	...	...	...	...	...	...	...			

South Sylhet ...	Babu Girish Chandra Nandi Mazumdar (Ilam).	5	5	629	... ‡	7	432	...	...	... §	305	69	Babu Hriday Chandra Ghosh.	Good	‡ Visited many villages. § Inspected three trigonometrical pillars; many theodolite stations and boundary marks.	
Sunamganj ...	Mr. Sorjo Mohan Tham ...	3	2	145	25	9	1 mile	...	...	...	...	...	Babu Prankrishna De „ Golok Chandra Kar.	Degraded for bad work. He knows and does his work well.		
North Sylhet (Jaintia parganas.	Babu Surendra Nath Datta (Kanairghat Tahsil).	16	16	228	183	...	...	175	...	192	10,457	180	Munshi Fajil Box ...	Not reliable.		
	Babu Ananda Behari Mitra (Goainghat Tahsil).	30	30	320	241	15	3·68 miles.	9,874	315	176	5,325	76	Babu Jagneswar Datta Munshi Madaras Ali. Babu Hari Mohan Das.	Satisfactory. Painstaking. Too shrewd.		
Ditto (Ilam)...	Maulvi Latfar Rahman (from 4th June to 30th September 1913).	3	...	453	...	...	...	...	...	...	...	...	.....	.....		
Karimganj (Ilam)...	Babu Biraja Kanta Ghosh (Ilam) (from 14th March 1913 to 30th September 1913).	4	4	341	69	...	...	277	5	84	...	...	.....	.....		
Ditto (Pratapgarh.	Maulvi Mushrafullah ...	6	6	218	119‖	...	...	489	84	116	595	89	.....	Good	‖ Villages not inspected; mostly uninhabited and in jungle.	
GOALPARA.																
Eastern Duars ...	Maulvi Muhammad Abdur Rasid.	36	36	297	240	72	34·5 miles.	2,123	37	209	...	...	Srijut Ratiram Das ... „ Jatraram Das ...	An intelligent worker. Intelligent, but superficial.		
KAMRUP.																
Gauhati ...	Srijut Janaki Nath Das Faisalanavis¶ (from 7th December 1912 to 3rd September 1913).	38	38	289	210	34	11·91 miles.	4,454	224	737	97	...	„ Kayaram Das ... „ Lakhi Kanta Das...	Fair	¶ Was in charge of Chhaigaon circle from 11th August 1913 to 30th September 1913, in addition to his own duties.	
Chhaigaon ...	Srijut Bipin Chandra Bardalai (from 1st December 1912 to 6th June 1913).	46	16	391	65	1	·21 mile.	679	...	9	100	61	„ Sibram Das ...	Ditto.		
	Srijut Janaki Nath Das Faisalanavis (from 11th August 1913 to 30th September 1913).		21		94	20	6·32 miles.	1,241	74	65	16	36	„ Sarat Chandra Chaudhuri.			

Name of circle or subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaris in the circle.	Number of mandals or patwaris whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitta* entries tested.	Number of *chitta* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	KAMRUP—*concld.*														
Kamalpur ...	Srijut Tarini Charan Chaudhuri.	40	40	292	200	29	10·96 miles.	...	...	...	977	344	Srijut Jagannath Deka. „ Pitambar Das (was on leave for 2 months).	Hard working and honest.	
													„ Sabharam Medhi officiating for 2 months).	Acted creditably.	
Rangiya ...	Srijut Hari Prasad Das (from 1st October 1912 to 8th April 1913).	46	46	324	213	29	1·11 miles.	280	25	128	863	194	„ Rupram ...	Good.	
													„ Bhagirath ...	Active and willing.	
Nalbari ...	Babu Promode Chandra Sen Gupta* (from 13th January 1913 to 30th September 1913).	59	59	346	330	12	4·90 miles.	2,645	34	531	4,454	751	„ Durgaram Datta ...	Experienced and capable.	* The Sub-Deputy Collector was in charge of the Rangiya circle for about three weeks in addition to his own duties.
													„ Purnananda Chaudhuri.	Ditto ditto.	
													„ Bhaturam Das ...	New man.	
Barpeta ...	Srijut Surendra Nath Gohain	20	20	257	121	64	21·03 miles.	1,187	30	44	72	13	„ Gangaram Das ...	Very satisfactory. An experienced, painstaking and active man.	
Bojali	Srijut Surja Kanta Baruat† (from 1st October 1912 to 14th September 1913).	51	50	386‡	261	91	36·57 miles.	4,973	120	236	1,348	160	„ Sitaram Das ...	Tolerably good ...	† The Sub-Deputy Collector was also in charge of the Barpeta circle from 9th to 25th August 1913 in addition to his own duties. ‡ Of these, 74 villages are unpopulated and uncultivated and 23 are entirely *Nisf-khiraj*.
													„ Moniram Das...	Fairly good.	

DARRANG.															
Tezpur ...	Rai Sahib Betharam Sharma	30	30	291§	253	27	9·05 miles.	6,336	113	541	1,139	259	„ Bathuram Das (on leave).	Unsatisfactory ...	§ Excluding Tezpur town.
													„ Phulthungr a m Deka (officiating).	Worked well.	
													„ Rati Kanta Das	On the whole his work is satisfactory.	
Mangaldai ...	Srijut Uma Charan Gohain ...	43	43	321	221	32	11·62 miles.	3,009	261	305	1,002	24	„ Mohiram Das...	Experienced and satisfactory.	
													„ Jagat Chandra Saharia.	Field work is satisfacsory, but wanting in experience in managing his subordinates.	
Kalaigaon ...	Srijut Tarini Charan Sarma	42	42	327	254	46	16·12 miles.	9,701	235	467	1,015	3	„ Kamal Chandra Saharia (officiating).	Satisfactory.	
													Munshi Muhammad Ilias (from 1st to 14th October 19 2 and from 20th April 1913 to 30th September 1913).	Ditto.	
													Srijut Harinath Deka (officiating from 15th October 1912 to 19th April 1913).	Ditto.	
Behali	Srijut Kamal Chandra Kagti	31	31	299	247	30	12·54 miles.	4,626	179	373	1,288	236	Srijut Sarbeswar Sarma	Not satisfactory.	
													„ Jogeswar Hazarika (officiating).	Satisfactory.	
NOWGONG.															
Silghat ...	Srijut Jagannath Bujar Baruah.	52	52	401	335	39	14·32 miles.	2,174	162	914	2,279	239	„ Minaram Das ...	Satisfactory.	
	Babu Har Kumar Das (from 1st to 30th September 1913).		11		18	...	...	170	2	25	...	...	„ Minaram Bhuyan	Not competent enough to hold charge of a big circle like this.	

APPENDIX B—*concld.*

Name of circle or subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaris in the circle.	Number of mandals or patwaris whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitta* entries tested.	Number of *chitta* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
NOWGONG—*concld.*															
Dhing ...	Maulvi Talmizur Rahman Chaudhuri (from 1st Oct. 1912 to 14th August 1913).	50	50	398	335	116	36·52	15,531	834	851	644	43	Srijut Kinaran Sarma...	Worked well.	
													„ Sarat Chandra Bora.		
	Srijut Bholanath Kakati (from 15th August 1913 to 30th Sep. 1913).		22		26	...	...	...	...	...	...	10			
Hill Circle ...	... *	6	6	548†	250	17	6·25	1,088	25	...	...	...	„ Taranath Bora...	Since retired ...	* Under the direct control of the Deputy Commissioner.
													„ Sreenath Bora	.....	† Including 508 unsurveyed villages, of which 506 house-tax paying villages.
Roha	Maulvi Azimuddin Ahmad ...	64	64	539	290	48	17·23 miles.	2,820	114	854	2,530	68	„ Bhogirath Laskar	Very satisfactory.	
													„ Dina Nath Sarma	Satisfactory.	
													„ Durgaram Das ...		
SIBSAGAR.															
Jorhat	Srijut Khageswar Barua ...	40	40	360	319	82	30·96 miles.	3,960	382	412	2,149	369	„ Mohiram Das ...	Painstaking and hard working.	
													„ Sibnath Sarma...	Grown old and incapable.	
Moriani ...	Srijut Bolanath Kakati (from 1st October 1912 to 12th May 1913).	37	27	364	186	15	5·15 miles.	1,849	27	334	485	291	„ Mohan Chandra Sarma.	Energetic and reliable.	
													„ Katiram Das ...	Slow and tried to fudge.	
	Srijut Gunahas Goswami (from 10th to 30th September 1913).		6		5	...	...	...	...	...	...	131			

Golaghat ...	Babu Krishna Behari Chaudhuri.	42	42	304	..‡	...	9·54 miles.	3,118	...	200	2,393	239	Srijut Mohiram Barua „ Bhakatram Das	Good	‡ Visited almost all the villages.
Kumargaon ...	Srijut Achyutananda Pathok	15	15	202	197	23	6·94 miles.	4,374	279	279	217	92	„ Mohiram Datta „ Mohan Chandra Sarma.	Satisfactory.	
Sibsagar ...	Babu Srish Kumar Sen ...	38	38	340	253	12	4·76 miles.	626	16	272	1,438	372	Umeswar Sarma „ Muktaram Datta		
Nazira	Srijut Annada Charan Bhattacharjee.	36	36	383	310	...	...	1,800	104	516	2,071	175	„ Amritram Chaudhuri. „ Gobin d a n a t h Chaudhuri.	Good.	
LAKHIMPUR.															
Dibrugarh ...	Babu Guru Charan De Chaudhuri.	29	29	301	232	8	2·97 miles.	3,047	148	357	321	248	„ Jati Ram Das ...	Satisfactory.	
													„ Pabit Charan Das	A very promising man. Worked well.	
Tinsukia ...	Srijut Debananda Bharali ...	29	29	263	211	20	7 miles.	1,860	70	153	783	136	„ Lakheswar Das...	Not satisfactory.	
													„ Gopal Chandra Rajkhoa.	Worked well.	
Tengakhat ...	Maulvi Mahammad Fazlur Rahman.	34	34	550	250	7	2·35 miles.	1,138	119	150	336	203	„ Dina Nath Gogoi „ Dimbeswar Gogoi	Inexperienced.	
Subansiri ...	Maulvi Narul Hussain Hazarika.	16	16	118	90	12	3·79 miles.	639	20	266	354	91	„ Sibnath Datta...		
Ranganadi ...	Babu Promod Chandra Roy (from 1st October 1912 to 27th May 1913).	18	18	166	...	...	3·93 miles.	30	26	138	214	67	„ Mohiram Das ... „ Bhagiram Saikia (offg).	Good.	
GARO HILLS.															
Plains portion ...	Under the Deputy Commissioner as there is no Sub-Deputy Collector specially in charge of the work.	12	12	294	108	87	27 miles.	...	...	...	...	...	„ Mohiram Das ...		

APPENDIX C.

["Permanently-settled" in this table includes "revenue-free."]

District.	Classification of district area (square miles).			Area for which a cadastral survey and record-of-rights are completed (square miles).			Area for which a cadastral survey and record-of-rights were being prepared in 1912-13 (square miles).			Area outstanding (square miles).			Remarks.
	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cachar	2	3,766	3,769	2	1,063	1,065	...	...	...	...	2,704	2,704	
Sylhet	3,825	1,555	5,380	...	801·5	801·5	...	27·5	...	3,825	726	4,551	
Goalpar	2,526	1,433	3,961	...	377	377	...	...	...	2,526	1,056	3,584	
Kamrup	53	3,805	3,858	53	2,173	2,226	...	...	...	...	1,632	1,632	
Darrang	8	3,398	3,406	8	1,214	1,222	...	...	...	...	2,184	2,184	
Nowgong	4	3,800	3,804	4	1,127	1,131	...	...	...	...	2,673	2,673	
Sibsagar	62	4,934	4,996	62	1,805	1,867	...	...	...	...	3,129	3,129	
Lakhimpur	3	4,204	4,207	3	732	735	...	...	...	...	3,472	3,472	
Garo Hills (plains portion)	...	3,140	3,140	...	50	50	...	...	...	...	3,090	3,090	The district is mostly hilly and will never be cadastrally surveyed.
Total ...	6,485	30,036	36,521	132	9,370	9,502	...	...	...	6,353	20,666	27,019	

APPENDIX D.

Progress of "Extension" surveys for the year ending 30th September 1913.

Name of district.	Total area of district (square miles).	Area surveyed by professional party (square miles).	Area surveyed in extension by village recorders.			Total area cadastrally surveyed (square miles).	Remarks.
			Previously (square miles).	During the year under report (square miles).	Total (square miles).		
1	2	3	4	5	6	7	8
Cachar	3,769	1,034	31	...	31	1,065	
Sylhet	5,380	545	276	8	284	829	
Goalpara	3,961	...	312	65	377	377	
Kamrup	3,858	1,966	260	...	260	2,226	
Darrang	3,406	857	351	14	365	1,222	
Nowgong	3,804	1,012	116	3	119	1,131	
Sibsagar	4,996	1,521	334	12	346	1,867	
Lakhimpur ...	4,207	269	466	...	466	735	
Garo Hills (plains portion).	3,140	...	46	4	50	50	
Total ...	36,521	7,204	2,192	106	2,298	9,502	

APPENDIX E.

Maintenance of the records during the year ending the 30th September 1913.

Name of district.	Number of tenancies or periodic *pattas* on area dealt with.	Number of mutations recorded—			Percentage of column 5 on column 2.	Remarks.
		By formal procedure (Assam).	By summary procedure (Assam).	Total.		
1	2	3	4	5	6	7
Cachar	70,433	1,196	22,234	23,430	33·26	
Sylhet	43,986	399	16,732	17,131	38·94	
Goalpara	3,553	19	116	135	3·79	
Kamrup	1,46,585	1,211	7,882	9,093	6·20	
Darrang	99,823	529	4,495	5,024	5·03	
Nowgong	61,370	203	4,415	4,618	7·52	
Sibsagar	1,54,900	1,011	8,435	9,446	6·09	
Lakhimpur	59,680	563	2,206	2,769	4·63	
Total ...	6,40,330	5,131	66,515	71,646	11·18	

APPENDIX F.

Condition of survey marks during the year ending 30*th September* 1913.

No.	Classification.	Total number of marks.	Total number found in good order.	Number found not in good order.		Total of columns 4 and 5 in good order on 1st October 1912.	Number lost or left unvisited.
				Repaired.	Not repaired.		
1	2	3	4	5	6	7	8
1	Theodolite stations—						
	(i) Stone prisms	15,701	13,055	962	349	14,017	1,335
	(ii) Square stone or blocks ...	21,283	14,840	595	153	15,435	5,695
	(iii) Other marks	83,501	43,518	20,887	10,044	64,405	9,052
2	Boundary marks of district, etc. (other than theodolite stations)—						
	(i) Stone prisms	20,197	9,766	...	71	9,766	10,360
	(ii) Square stone or blocks ...	3,760	2,278	132	50	2,410	1,300
	(iii) Other marks	1,213	887	47	158	934	121
3	Boundary marks of private property (other than theodolite stations)—						
	(i) Stone prisms	6,059	5,608	115	155	5,723	181
	(ii) Square stones or blocks ...	18,244	16,522	147	509	16,669	1,066
	(iii) Other marks	6,656	4,842	274	689	5,116	851
4	Kanungo's mounds	16,356	5,805	2,067	945	7,872	7,539
	Total	192,970	117,121	25,226	13,123	142,347	37,500

Resolution on the Survey and Settlement Report, Assam, for the year ending the 30th September 1913.

Extract from the Proceedings of the Chief Commissioner of Assam in the Revenue Department, No. 760R., dated the 13th February 1914.

READ—

The Survey and Settlement Reports, Assam, for the year ending the 30th September 1913.

RESOLUTION.

During the year under report the office of the Director of Surveys, Bengal and Assam, was removed from Shillong to Calcutta, and proposals were submitted to the Government of India for the continuance of the present joint arrangement for the conduct of surveys in Bengal and Assam for a further period of two years from the 1st April 1914, and for the recruitment of an Imperial Officer of the Survey of India as Second Assistant Director of Surveys, with recess headquarters at Shillong. The proposals were sanctioned by the Supreme Government after the close of the year.

2. The Chief Commissioner is gratified to hear of the unqualified success of the experiment made in Goalpara of training the mandals in the use of the theodolite, and thus enabling them to do work of a permanent value in surveying extensions of cultivation. The success of this experiment and the establishment of the central Survey School near Gauhati, which has been opened since the close of the year, mark a decided advance in the task of improving the local survey staff, to which Major Hirst has devoted particular attention.

3. Sir Archdale Earle is also pleased to learn that extended use has been made of the Survey Department both by Government officials and by private persons.

4. The Chief Commissioner has read with interest Major Hirst's remarks on the value of the new topographical survey maps, and full weight will be given to his arguments in favour of the retention of the $1\frac{1}{2}''=1$ mile scale for hilly tracts.

5. The Department was unable, for reasons beyond its control, to complete the traverse survey of the tea grants in Lakhimpur district. The survey of similar grants in other districts is at present engaging the consideration of the Local Administration.

6. An important programme of settlement operations in the Surma Valley was initiated during the year under report. The long discussed question of the feasibility and value of the survey and preparation of a record-of-rights for the permanently-settled portions of the Sylhet district will, the Chief Commissioner trusts, be settled once for all by the experimental operations which it has been decided to undertake in a limited but typical area of three parganas. If the experience thus gained shows that the cost will not be prohibitive, the operations will be extended to the remainder of the permanently-settled part of the district. Apart from the advantages which ordinarily follow in the train of such operations—the accurate definition of rights and titles and the speedy settlement of long standing disputes—it is hoped that in this case they will provide material on which can be based the tenancy legislation which is one of the most urgent needs in the permanently-settled areas of the province.

7. As the exhaustive enquiries made by Mr. W. L. Scott, I.C.S., showed that the re-assessment of the Cachar district was more urgently called for than that of the Jaintia parganas, re-settlement operations have already been commenced in the former area, whilst the inception of similar operations in the Jaintia parganas has been deferred for one season.

8. The resettlement of the last batch of *jangalburi* mahals in Cachar was completed during the year and good progress was made with that of the *nankar* and other temporarily-settled estates in Sylhet. The operations for the resettlement of Dibrugarh town were prolonged by the necessity of making careful enquiries into a number of objections preferred against the Assistant Settlement Officer's proposals, which, however, were found to be careful and moderate. The revenue calculation is now in progress and a final report showing the result of the resettlement is awaited.

9. The Chief Commissioner is glad to see that the efforts made to secure resident mandals for all lots has resulted in an increase by 83 in the number of mandals so qualified. In some districts, however, there is still considerable room for improvement, and the Chief Commissioner hopes that District Officers will insist on the strict fulfilment of the condition of residence, as work cannot be efficiently performed by absentee mandals. The Director has been able to report an improvement in the work of the Sub-Deputy Collectors, as compared with that done last year, but the Chief Commissioner regrets to notice that the work of a number of these officers still fails to come up to the standard required and that to many of them the work is distasteful. The suggestion made by the Director of Land Records, that appointments to the Provincial Executive Service should more often be made through the Subordinate Executive Service has already been adopted by the Chief Commissioner and several promotions of deserving Sub-Deputy Collectors have been gazetted within the last twelve months. The Chief Commissioner cannot too strongly endorse Mr. McSwiney's remarks regarding the necessity for thorough supervision of the work of the supervisor kanungos, and for careful check of the accuracy of the records in the presence of the villagers.

10. The question of improving the position of the subordinate land records staff engaged the attention of the Chief Commissioner and it has been found possible to ameliorate the condition of mandals, supervisor kanungos and registrar kanungos in different ways. The provision of quarters for mandals and patwaris recessing at certain circle-headquarters, where the question of accommodation is specially difficult, has been sanctioned, and halting allowance will be granted to recorders who attend recess at a district headquarters more than 5 miles from their homes. An improvement was effected in the prospects of registrar kanungos in the districts of Cachar, Sylhet, Kamrup and Sibsagar, and the number of ten-rupee field allowances for supervisor kanungos was raised from 11 to 26, the number of five-rupee allowances being correspondingly reduced.

11. As pointed out by the Director, the orders contained in the Resolution on the Survey and Settlement Report for 1911-12 regarding the control by District and Subdivisional Officers of the Land Records staff, issued too late to have much effect during the field season of 1912-13. The Chief Commissioner hopes that these orders are being fully carried out during the present field season, but he has not found in the diaries of some Deputy Commissioners sufficient evidence of their recognition of responsibility in this matter. The Deputy Commissioner as head of the Land Records staff is primarily responsible for its efficient working, and if he insists on efficient work from the Sub-Deputy Collectors, he will almost certainly get it. If he finds that a Sub-Deputy Collector is recalcitrant, it is for him to propose a change in the staff.

12. The suggestion made by the Director of Land Records regarding the postponement of the date of the submission of his annual report will receive consideration.

13. The Chief Commissioner desires to express his thanks to Mr. McSwiney and Major Hirst for the marked ability and energy with which they have conducted the administration of their respective Departments.

As regards assistance given to the Director of Land Records by Deputy Commissioners and Subdivisional Officers in respect of inspection of land records, the Chief Commissioner is glad to hear that Major Playfair (Sibsagar), Messrs. Clarke and Dawson (Nowgong), and Colonel Herbert and Mr. Parry (Lakhimpur) did good work, but he is more than disappointed that the list is so meagre. There is no excuse whatever for this negligence, and the Chief Commissioner warns all Deputy Commissioners and Subdivisional Officers, now that his views are known, that he will take serious notice in future of delinquencies.

As regards the Survey Report, the Chief Commissioner learns with pleasure of the good work done by Captain Gwyn, Deputy Superintendent of Surveys, and by Messrs. Shaw, Smart and Judd, and Babu Damodar Rao.

ORDER.—Ordered that this Resolution and the Reports of the Director, Department of Land Records, and the Director of Surveys, be published in the *Assam Gazette*, and that a copy of it, with a copy of each of the two Reports, be submitted to the Government of India.

By order of the Chief Commissioner of Assam,

A. W. BOTHAM,

Second Secretary to the Chief Commissioner of Assam.

A. S. P. O. (R. & Agri.) No. 98—400—16-2-1914.—T. E. J.

REPORT

ON THE

SURVEY AND SETTLEMENT OPERATIONS

IN

ASSAM

FOR THE

Year ending 30th September 1914

PRINTED AT THE ASSAM SECRETARIAT PRINTING OFFICE.

1915.

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(11) Messrs. Students & Co., Cooch Bihar.

Agents in England.

(1) Messrs. Constable & Co., 10, Orange Street, Leicester Sqnare, W. C.

(2) Messrs. Kegan Paul, Trench, Trübner & Co., 68—74, Carter Lane, E. C., London.

(3) Mr. B. Quaritch, 11, Grafton Street, New Bond Street, W.

(4) Messrs. P. S. King & Son, 9, Bridge Street, Westminster, S. W., London.

(5) Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.

(6) Messrs. Deighton Bell & Co., Cambridge.

(7) Messrs. Henry S. King & Co., 65, Cornhill, E. C., London.

(8) Messrs. Grindlay & Co., 54, Parliament Street, S. W., London.

(9) Messrs. W. Thacker & Co., 2, Creed Lane, London, E. C.

(10) Messrs. Luzac & Co., 46, Great Russell Street, London, W. C.

(11) Mr. J. Fisher Unwin, 1, Adelphie Terrace, London W. C.

Agents on the Continent of Europe.

(1) MM. Friedländer & Sohn, 11, Carlstrasse, Berlin.

(2) M. Otto Harrassowitz, Leipzig.

(3) M. Karl Hiersemann, Leipzig.

(4) M. Earnest Leroux, 28, Rue Bonaparte, Paris.

(5) Martinus Nijhoff, The Hague.

(6) Messrs. Oliver and Boyed, Tweeddale Court, Edinburgh.

(7) Messrs. E. Ponsonby, Ltd., 116, Grafton Street Dublin.

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SURVEY REPORT.

CONTENTS.

CHAPTER I.

	Pages
General remarks	1—4

CHAPTER II.

Survey work by the Assam Traverse Party	5—12

CHAPTER III.

Drawing office	12 & 13

CHAPTER IV.

Survey School	13

CHAPTER V.

Services of officers	14

REPORT

ON THE

SURVEY OPERATIONS IN ASSAM

FOR THE

Year ending 30th September 1914.

No. 4820, dated Calcutta, the 19th December 1914.

From—Major F. C. HIRST, I.A., Director of Surveys, Bengal and Assam (on special duty),

To—The Chief Secretary to the Hon'ble the Chief Commissioner of Assam.

I have the honour to submit my report upon the work of my Department in Assam during the year ending on the 30th September 1914. I have been in charge of the Department during the whole year, and therefore sign this report, although I have handed over charge of the Department.

2. The outturn of the year, consisting as it does of a miscellany of different types of work, cannot be given in square mile equivalents. The work done, however, is a considerable increase upon that of previous years.

3. The recent addition of the Western Bengal districts to my charge rendered it impossible for me to administer the joint Department of Bengal and Assam from Shillong. Previously therefore my headquarters had been transferred to Calcutta, and I left Shillong in October 1913, with instructions to recess in Darjeeling, and pay periodical visits to Shillong.

The Assam Government, however, decided that an Imperial officer must have his headquarters at Shillong and Captain C. M. Thompson, I.A., Assistant Superintendent of the Survey of India, joined at Shillong as second Assistant Director of Surveys on the 4th November 1913.

As he had no previous experience of Revenue Surveys he was placed under instruction, and it was arranged that all Government cases should first go to him and eventually reach Government through me. This arrangement was not adhered to, for reasons which need not be entered into here. Unfortunately through ill-health, and very heavy pressure of work in Bengal, I was unable to visit Shillong during the hot weather, but my touch with the Assam work was sufficiently close for this not to have mattered at all, had I received full information from Shillong.

During the recess Captain Thompson was placed in administrative charge of the Assam Traverse Party and the Shillong Drawing Office, under my supervision, but his work did not include the supervision of accounts or the issuing of final orders upon any subject of importance. Thus his charge was perhaps the equivalent of one-third of the administrative work of the Department connected with Assam. I found, however, that Captain Thompson had little knowledge of correspondence procedure, and my work was much increased by having constantly to refer back cases for further information, even when I had said exactly what information I required initially.

The actual results of having an Assistant Director of Surveys at Shillong, from my own point of view, are, that I have begun to lose touch with the work, and that my own work has been increased. It cannot be expected in operations of the nature of those done by this Department, that an inexperienced officer, however willing he may be—and Captain Thompson has worked hard—can successfully carry out work in which experience is required. I consider that such loss of touch as has occurred, is entirely due to the reasons given above, and I am convinced that I could have administered the Department perfectly efficiently, and at a cost of less time without visiting Shillong at all. I had been in Shillong for several years, and naturally had an intimate knowledge of every phase of the work. Therefore touch could not easily be lost.

4. Discussions have been in progress regarding the future of Assam Surveys. It has not been decided yet whether Assam will have its own Local Survey Department, or will continue to share a Director of Surveys with Bengal. I have found the joint work very arduous, and have only been able to carry on because I organized the joint Department myself, and because I have carried on with a total disregard for my health. Generally speaking, it may be said that the joint charge is too heavy for one man.

5. In June 1912, a conference was held at Shillong, at which the future of Assam Surveys was considered. In the main the proposals considered were those that I had put forward, for placing Assam Surveys on a better footing. The proposals were generally well received, but I am not sure that their importance has been fully realized.

6. Mr. T. Shaw relinquished charge of his appointment as Personal Assistant on the 1st April 1914, and was placed upon special duty to write the history of the Surveys of Sylhet.

My history of the Surveys of Goalpara is in the press. It has been delayed because I found it necessary, in order to carry on the large scale surveys of Calcutta at all, to write a history of those surveys. This is completed and in the press. Further, difficulties in two chapters of the Goalpara History, that were unexpected, cropped up.

7. The map records of the Goalpara Collectorate Revenue Record Room were mounted and classified by Captain Thompson in December and January last according to my detailed note on the maps of this district of 1908. A few old maps which were badly torn are being remade in Shillong.

I have held up the question of providing suitable racks for the maps, until I can see if I can spare the necessary funds from the sanctioned budget for this financial year.

As soon as Mr. Shaw's Survey Gazetteer of Sylhet is published, I think that the readjustment of the Sylhet Record Room should be taken up, and, later on, as opportunity occurs, that of the other district Record Rooms of the Province. The Goalpara case does not necessarily give a precedent that can be followed closely in other districts.

8. The map records of the Shillong Secretariat have been overhauled by Captain Thompson. The initial work was done by Mr. Delaney and myself when the Province of Eastern Bengal and Assam existed. Territorial changes necessitated a complete reclassification. I reported the results of the case to the Chief Secretary in my letter No. 2714, dated the 16th July 1914.

9. With the permission of the Governments of Assam and Bengal, I am acting as co-arbitrator with Mr. C. K. Sen, in a boundary dispute between the Chapar and Mechpara Zamindaris in Goalpara. The parties had previously spent between Rs. 60,000 and Rs. 70,000 upon this boundary with no result, and it is hoped to adjust it finally for about one-tenth of the money already expended.

The work entailed in an operation of this nature is well repaid, if the public benefits by it.

10. An attempt was made in Kamrup to repeat the experiment previously successful in Goalpara, and which was reported upon last year, by which selected and specially trained mandals traversed extension survey areas with the theodolite. I regret to say that the success met with in Goalpara was not repeated in Kamrup.

There were several reasons for the failure, but I think that the main blame lies with me for not having asked the Deputy Commissioner to pay special attention to the work. Next season the experiment will be continued.

11. With reference to certain items referred to in my last report, I have the following remarks to make :—

Paragraph 4, *Special tea grant boundary survey*.—The general principles of the necessity of adjusting tea grant boundaries throughout the Province have been approved by the Chief Commissioner, but the case cannot be proceeded with until funds are available. I spent a good deal of time at Jorhat and in its neighbourhood enquiring into the attitude of the Planters on this question, and the difficulties that were likely to occur, but the experience gained in that enquiry, satisfactory as it was, will not be of use for at least another year.

Paragraph 9.—The Chief Commissioner has issued orders upon all the points dealt with at the meeting of Approved Surveyors held in Gauhati in 1913. The new orders and rules that have issued appear to work well, and such few difficulties as have occurred were due to misunderstanding.

In future the surveyors employed by Government Approved Surveyors upon work executed for Government are to be examined, so that there may be no doubt regarding their efficiency.

Paragraph 11.—An instrument checking standard has been set up at Silchar. Standards will be set up next season at Hailakandi (Cachar), Sylhet, Karimganj, Habiganj, Maulvi Bazar and Sunamganj (Sylhet).

Paragraph 10.—Every facility has been given to the public to make use of the Department, so long as the interests of surveyors practising privately are not tampered with.

The district in which most progress has been made is Goalpara. This is due to a combination of circumstances that need not be entered into here, but not the least of those circumstances is the influence of Mr. Lainé, the Deputy Commissioner, and it is only right that his help should be mentioned here.

In other districts, little progress has been made except in the Khasi Hills and Sylhet, in which Messrs. Dentith and Cosgrave of the Indian Civil Service have made ample use of the Department.

Elsewhere I am certain that the same co-operation and help will be forthcoming, as soon as opportunity occurs for developing the Department more widely.

I may mention, however, that all private and *quasi*-private work, entails a heavy tax on the Survey officers concerned, if it is to be done properly. It is easy to say that this will be done, and that will be done, but the actual doing of the work properly is less easy of attainment than some people think. The point is important because in the last year some officers have been disposed to estimate for work before they knew exactly what was wanted. Such methods merely jeopardize the useful future of the Department, and throw to the winds an amount of careful building up in the past, the actual labour of which is known only to me personally.

Paragraph 12.—A further use of the 1½″ enlargements of the 1″ Survey of India maps referred to last year, will probably be made by the Forest Department.

Steps were taken to stock 1½″ enlargements of hilly tracts in the Drawing Office, Shillong, mainly for mining purposes. If, in addition, the Forest Department intends making use of these enlargements, it may either get them prepared by the Survey of India, or arrange with me for their supply.

12. During the year, under the orders of the Bengal Government, I published an atlas containing copies of such maps as Major James Rennell is known to have compiled between 1764 and 1777, but which were not published in his famous Atlas of 1781. Most of the new maps were found by Mr. F. D. Ascoli, I.C.S., in the India Office.

The new publication contains little of Assam, except in the north-west corner of the Province. A copy of the atlas will be forwarded in due course.

To explain the plates in the atlas and in Rennell's 1781 Atlas, I have published a memoir on this remarkable man's work, with a brief history of his career.

13. During the year I published a small text-book dealing with the connection between Surveying and the duties of the Police Department. The book was written two years ago, and I had hoped that it would have been useful to the Assam Police, but the Inspector-General of Police does not propose to make use of it. The system advocated is being adopted by the Bengal Government, and by at least two other Local Governments.

14. There still remains a good deal of publication to be done before it can be said that Assam is properly equipped with books for the guidance of Survey officers employed in the Province and others whose interests are connected with survey matters and maps.

The following publications are needed in Assam :—

(*a*) Completion of the series of Survey Gazetteers.

(*b*) A traverse Survey hand-book.

(*c*) A new Cadastral hand-book for mandals and patwaris.

(*d*) A small hand-book for tea planters.

(*e*) A local Survey hand-book for Forest Officers.

(*f*) A hand-book for the Drawing Office and its reproduction work, etc.

(*g*) A revised Departmental Accounts Manual.

(*h*) A memoir on the use of maps by the different Departments of Government.

Item (*a*)—has already been dealt with in this report.

Item (*b*).—I have been engaged upon for several years, and now that Mr. S. O. Madras has agreed to co-operate, I hope that there will not be undue delay in its publication.

Item (*c*)—is being done by Maulvi Talmizur Rahman and me.

Item (*d*)—is really a private matter, but is wrapped up with the importance to Government of the proper up-keep of boundaries. The case requires specially designed instruments. I hope to complete the notes I have collected in the last few years, in about 18 months' time. Such modifications in instruments as are required have been completed already.

Item (*e*)—is partly covered by a work that has just been issued as a text-book for the training course at the Dehra Dun Forest College. I do not think that that text-book fully meets the case of Assam.

Item (*f*).—This cannot be touched until the future of the Shillong Drawing Office has been decided.

Item (*g*).—Captain Gwyn, Assistant Director of Surveys, is rewriting the provisional Accounts Manual written by Mr. Picachi and me a few years ago. But until the future of Assam Surveys is decided it will not be possible to issue a final manual.

Item (*h*).—I have complete notes for this subject, but have not had time to put them together.

Other publications might be mentioned, but these are the more important that are required.

15. I have issued orders for the moving of the Bengal sections for records, copying and thana mapping of the Drawing Office to Calcutta by the end of this Survey year. Thus beyond reproduction the Shillong Drawing Office becomes purely an Assam institution.

16. The question of compiling certain standardised maps of Assam is still under consideration, but it has progressed considerably during the year.

17. In June a conference was held at Dhubri, attended by the Commissioner and Deputy Commissioner, Captain Thompson and myself, and those interested in disputed main interior boundaries in the Goalpara district. The object of the conference was to suggest means of finishing up a number of boundary relaying cases that had accumulated. The orders of Government upon the proceedings of the conference are expected shortly.

18. During the year the experimental Cadastral Survey of the Sylhet District was commenced. Upon its result depends the question of whether the whole district will be cadastrally surveyed or not.

To date the only field work done is the traverse survey of 109 square miles, but I have been in communication with Mr. Gimson, I.C.S., the Settlement Officer, for some months and have given such help as I could to further the prospect of good cadastral work. Incidentally I have compiled survey rules for the Settlement Officer which he intends to embody in his general rules.

19. This portion of my report is longer than is consistent with the limit of ten pages which Government has imposed. In the latter part of the report I had hoped to have reduced technical details to the minimum possible, and had my wishes been properly followed, much of the information given later on would have been tabulated.

There is nothing in the preceding paragraphs that is not of importance, or that I can bring myself to exclude from the report.

CHAPTER II.

Survey work by the Assam Traverse Party (Mr. O. E. C. Judd).

Traverse of extension survey areas in Kamrup district.

20. The traverse of extension villages of circles, Bojali, Rangia, Chaigaon and Gauhati was undertaken by three mandals trained during last recess.

21. The causes of the failure of this work have already been explained in paragraph 11, Chapter I, of this report.

22. Out of 105 villages, only nine were traversed and of those only five proved.

·64 linear miles of traversing were done, 384 angular observations made, ten azimuths observed and five used.

23. The origin of surveys is the intersection of North Latitude 26° 30′ 00″ with East Longitude 91° 30′ 00″, a correction of 2′ 27″·18 in longitude being applied to convert to the most recent value of Madras.

24. Index maps showing the traverse done by the Survey of India, by this Department, and by mandals separately, are being prepared for use of the Deputy Commissioner and officers of this Department.

The cost was borne by the Assam Provincial Funds.

Relaying old traverse stations and boundary marks in the cadastral area of Nalbari Circle, Kamrup District.

25. Traversing was continued this season in the 12 villages (*vide* paragraph 24 of last year's report), but owing to 4 of the villages being found under water, they could not be surveyed. This work will be done next year. The new traverse stations have been plotted on the original 1883-85 sheets, and traces are under preparation showing the old and new traverse stations, the village boundaries and permanent marks shown on those sheets.

26. Out of 52 villages, traces for 48 will be supplied by October. From these, by aid of the new traverse stations, the District staff can relay the lost boundary marks which will afterwards require to be checked, or they can make a resurvey of the villages *in toto*.

27. The origin used is that reported in paragraph 27 of last year's report. The cost was met from Provincial Funds.

Messrs. Byrkmyre's special Jute Grant in Kamrup.

28. The traversing, temporary demarcation of the boundaries and detail survey were continued this season (paragraph 28 of last year's report).

The traversing was completed and boundaries demarcated by earthen mounds and 1,640 acres surveyed in detail. The work could not be completed owing to coolies absconding.

The detail survey will be completed next year.

I was informed by one of my staff that the work had been completed, although at the time it had been only discontinued. I found later on that I had been given wrong information.

29. 83·73 linear miles of traversing were run, 479 angular observations made, 8 azimuths observed and 6 used.

The grant falls on fifty-nine feet sixteen inch sheets, of which 56½ remain for detail survey.

30. The origin of survey is the intersection of North Latitude 26° 30′00″ with East Longitude 90° 30′00″, a correction of 2′ 27″·18 being applied in longitude to obtain agreement with the most recent value of Madras. Great trigonometrical connection has not yet been made. The cost was borne by Messrs. Byrkmyre & Company.

Traverse surveys of Tea Grants of district Lakhimpur.

31. This work was continued this season. Fifteen grants were included in this season's programme. Twelve grants were traversed. Three could not be surveyed, as one could not be found, and the other two, when located, were under

water. This work will be completed next season. The work was protracted through difficulty in locating some of the grants, the difficult nature of the ground, and the scattered positions of the grants. 148·66 linear miles of traversing were run, 1,484 angular observations made, 23 azimuths observed and 19 used.

32. All these traverse surveys recently done have been connected to great trigonometrical work. The origin is the same as that given in paragraph 32 of last year's report.

33. Arrears of work from previous seasons in connection with 17 grants were also completed.

34. Out of 242 grants, comparative maps of 111 are ready and 6 more will be ready shortly. These 117 maps will be sent to the Deputy Commissioner for revision of lease areas.

Comparative maps for the remaining 125 connot be prepared, as for 102 the original grant maps are not procurable, and for 23 the original maps are discrepant with the new surveys. These 125 new maps are being sent to the Deputy Commissioner and should be accepted in lieu of the original grant maps for revision of leases. Copies of the maps will be prepared later when the maps are returned by the Deputy Commissioner.

The cost was borne by Provincial Funds.

Survey of Digboi oil field, District Lakhimpur.

35. The traverse for this survey was completed last year (*vide* paragraph 33 of last year's report). The Hon'ble Mr. Hawkins on his return from England decided that the work done, which gave heights, would give the information that the Company required and that no further work was necessary.

Relaying and permanent demarcation of the Khasi Hills and Sylhet District boundary.

36. The permanent demarcation of the whole length from Therriaghat to the Mymensingh border was completed this season according to Mr. Davey's Revenue Survey maps of 1861-65, corrected in the Surveyor General's office (as decided by the Boundary Commissioners, Captain Jones and Mr. Clark).

37. About 60 linear miles of boundary have been demarcated. The line is now defined by 129 permanent marks *viz.*, 111 new and 9 old boundary pillars, 7 old and 2 new reference pillars.

One Great Trigonometrical Station and one other triangulated point have been connected in traversing.

38. The origin of the present survey is the intersection of North Latitude 24° 30′ 00″ with East Longitude 92° 00′00″, a correction of 2′ 27″·18 being applied in longitude to accord with the most recent value of Madras.

Relaying the Goalpara-Bhutan boundary.

39. In 1911-12 a traverse was run and a comparative map prepared.

The clearing and temporary demarcation of the boundary and a road alongside it were completed in 1912-13.

The permanent demarcation has been completed this season.

The cost of the work was met from Imperial (Political) Funds.

40. Forty-two miles of boundary were cleared 12 feet wide and 34·6 miles 6 feet wide, and 42·6 miles of clearing were made for the road where it deviates from the boundary. The boundary is now demarcated by 203 marks, *viz.*, 56 boundary marks, 141 guide marks and 7 reference pillars. The line (81·58 miles long) has been relaid by Mr. J. H. O'Donel's Survey of 1867-68.

41. With reference to the remarks made in paragraph 38 of last year's report :—

(i) the boundary between old pillars, Nos. 48 and 49 (which latter is the trijunction of Jalpaiguri, Bhutan and Goalpara) as determined from Mr. O'Donel's survey and as relaid by Colonel Hodgson has been taken to be the line joining these two points as directed in Government letter No. 258, dated the 1st February 1913 ;

(ii) in the other case, the line shown in O'Donel's map has been relaid, *viz.*, from a point 13 chains west of pillar No. 78 across the river Manas to a point 21 chains south of pillar No. 79, thence up to the east bank of the Manas to pillar 79, under orders conveyed in the Under-Secretary to the Chief Commissioner's letter No. 6430, dated the 28th November 1913.

42. The origin of survey has been taken as the intersection of North Latitude 26° 38′ 00″ with East Longitude 90° 30′ 00″, and a correction 2′ 27″·18 applied in the longitude to accord with the most recent value of Madras. As no Great Trigonometrical Stations existed conveniently near the boundary, connections were made to old traverse pillars on the south which were themselves already connected to Great Trigonometrical points. The average linear error in traversing is 6 Gunter's links per mile.

43. It was decided that the Forest Department will keep the boundary and road clear in future and traces will shortly be supplied to the Forest Officer, Goalpara, to enable him to carry out this work.

The cost was met from Imperial (Political) Funds.

Extension survey traverse in Goalpara District.

44. Four extension villages were traversed in Goalpara during this season by the district mandals.

Plots of these have been supplied to the Deputy Commissioner who will arrange for the cadastral survey.

The traverse work done by the mandals of this district has been very satisfactory.

The cost was borne by Provincial Funds.

Extension survey traverse in Cachar District.

45. A list of 31 villages was supplied by the Settlement Officer for traverse during the season. Later, 10 villages of Hailakandi subdivision were excluded as they were practically uncultivated, and two others were excluded as each was less than 96 bighas in area.

Out of the remaining 19 villages, only 18 were traversed during this season, because the mandals of Cachar have not yet been trained in traverse work.

46. 62·33 linear miles of boundary traverse, 121·63 of connecting lines and 6·77 of subtraverses were run, 1,363 angular observations made, 19 azimuths observed and 16 used. The 16 inch plots have been supplied to the Settlement Officer, Cachar, who will undertake the cadastral survey.

47. The origin of surveys is the intersection of North Latitude 24° 45′ and East Longitude 92° 45′. Four Great Trigonometrical Stations were connected to locate the villages, and a correction of 2′ 27″·18 applied to their longitude values to accord with the most recent value of Madras.

48. Digli grant, the one village left over (on account of its flooded condition as reported by the Settlement Officer), will be traversed next season along with others that the Settlement Officer, Cachar, may require surveyed.

The cost was met from Provincial Funds.

Relaying of the "thák" *boundary between Patharia and Partabgarh Hills, District Sylhet.*

49. To prevent encroachments on Government lands by owners of adjoining permanently-settled estates, I was asked to relay about 56·08 linear miles of this boundary by the *thák* maps of 1860-65.

Preliminary traversing for the preparation of a relaying map was completed this season and demarcation will be taken up next cold weather. Connection was made to one Great Trigonometrical Station (Kulerai) and two old Revenue Survey pillars.

The cost was borne by Provincial Funds.

Relaying the "thák" *boundary between* thákś *Nos.* 1526—1 *and* 1743 *of Habiganj subdivision, District Sylhet.*

50. Owing to trespassing on the Government land covered by *thák* No. 1743, this Department was asked to relay the eastern boundary of Ramballabpur village (*thák* No. 1526) with the aid of the Revenue Survey map of 1860-61.

51. The boundary was relaid and temporarily demarcated and some further survey carried out, to obtain areas for the decision of pending cases.

A copy of the comparative map has been sent to the Deputy Commissioner. The Revenue Survey map may have to be altered to agree with the relaying map. This is owing to differences between the *thák* and Revenue Survey maps.

52. Nineteen linear miles of traversing were run, 300 angular observations made, 7 azimuths observed and 7 used. Ninety-five linear miles of boundary were temporarily demarcated and about 12 linear miles of boundary surveyed.

53. The origin of survey is the intersection of North Latitude 24° 30′ 00″ and East Longitude 92° 00′ 00″, a correction of 2′ 27″·18 being applied in longitude, to accord with the most recent value of Madras.

The cost was borne by Provincial funds.

Permanent demarcation by the "thák" *map of the boundaries of Bholaganj grant, District Sylhet.*

54. I was asked to relay and permanently demarcate the boundaries of this grant by the *thák* survey.

The relaying was completed this season by aid of the Revenue Survey maps of of 1860-65, and 25 permanent marks were embedded on the boundaries.

55. 2·22 linear miles of traversing were carried out, 24 angular observations made and 2·69 miles of boundary surveyed and demarcated. The Revenue Survey maps may have to be altered to agree with the relaying maps.

56. The origin of survey is the intersection of Latitude North 24° 30′ 00″ and Longitude East 92° 00′ 00″, a correction of 2′ 27″·18 being applied to agree with the most recent value of Madras.

57. Connection was made to this Department's traversing on the Khasi and Jaintia Hills and Sylhet District boundary.

A copy of the relaying map has been sent to the Deputy Commissioner, Sylhet.

The cost was met in half shares by Government and the parties concerned.

Survey of special rule grant No. 14182—23, *Chargola, District Sylhet.*

58. The survey of this grant was required for resettlement purposes.

The survey (traverse and detail) was completed this season and vandyked copies of the map will shortly be supplied to the Deputy Commissioner.

The area of the grant by the present surveys is 2078·52 acres.

59. 25·75 linear miles of traverses were run 147 angular observations made, 3 azimuths observed and 2 used.

Two triangulated points fixed by No. 12 Party of the Survey of India have been connected with and their values used to obtain the geographical location of the grant.

60. The origin of survey is the same as for other work done by this Department in this District.

The cost was borne by Provincial Revenues.

Traverse of Parganas Renga, Baraya and Dakhingach for cadastral survey in District Sylhet.

61. Ninety-four villages, comprising about 95 square miles, had to be traversed for cadastral survey. Government orders were received for taking up this work in letter No. 4049, dated the 27th August 1914, from the Second Secretary to the Chief Commissioner of Assam. The work was undertaken this season and 92 villages completed. Two villages still remain for survey and 4 villages require revision. The work could not be completed owing to the flooded state of the country, and will be seen to next cold weather.

62. 275·74 miles of boundary traversing, 44·91 of connecting lines and 133·24 of subtraverses were run ; 3,373 angular observations made, 47 azimuths observed and 41 used.

Five Great Trigonometrical Stations were connected with and their values used for correcting errors in chaining and for the geographical location of the area.

The linear errors in traversing are as follows :—Between Orthoke and Pakibor Great Trigonometrical Station, 10·28 feet ; between Pakibor and Kylas Tila 12·15 feet ; from Kylas Tila to Utni Tila 20·17 feet ; and from Utni Tila to Abangi Tila 15·72 feet.

One hundred and ninety-one trijunctions stones were embedded.

63. The origin of survey is the same as for other work done by this Department in the District. Sixteen inch plots will be supplied to the Settlement Officer by October 1914.

The cost was borne by Provincial Funds.

Traverse survey of 18 *villages in Habraghat.*

64. An application was made by the Rani of Bijni to have these villages surveyed by the Collector and this Department was asked to undertake the preliminary traverse.

65. The work was completed during this year, 93·09 miles of boundary, 28·66 miles of connecting lines and 32·74 miles of subtraverses were run ; 1,393 angular observations were made, 11 azimuths were observed and 9 used.

66. One Great Trigonometrical Station was connected with and its value used for the geographical location of the villages.

The 16-inch polygons on 56 sheets have been sent to the Deputy Commissioner for his staff to carry out the cadastral survey and record-writing. In the course of the traversing the traverse lines laid down are said to have encroached upon the Mechpara Pargana. This has led to a dispute which the Deputy Commissioner will deal with.

67 The origin of survey is the same as that for other work done by this Department in this District.

The cost was met by the Bijni Raj.

Traversing for relaying of the Mechpara-Chapar boundary, District Goalpara.

68. To settle disputes that exist along this line, this Department undertook the traversing along the boundary and the preparation of comparative maps showing the boundaries of both parganas by Mr. John Kelso's surveys of 1850-51-52 with reference to the present traverse.

69. The traversing and comparative map were completed this year. 75·70 linear miles of main traverse were run, 337 angular observations made, 15 azimuths observed and 15 used.

70. The traverse was connected on the east to Goalpara Great Trigonometrical Station and on the west to Dhubri Great Trigonometrical Station.

Traces of the comparative map and a separate 4-inch plot have been supplied to the co-arbitrator Mr. C. K. Sen.

71. The origin of survey is the same as that for other work done by this Department in this District.

The cost was met by private parties.

Survey of a special cultivation grant applied for by Mr. Lawrie in district Kamrup.

72. This grant has been surveyed on the 16 inch scale.

The grant comprises 3,645 acres and is mapped on 6 sheets. 15·03 miles of traversing were run and 87 angular observations made.

The 16″ maps are nearly completed and will shortly be sent to the Deputy Commissioner.

73. The origin of survey is the same as for other work done in this district by this Department.

74. A second grant applied for by Mr. Lawrie and Messrs. Byrkmyre lying east of the above block has also been dealt with. The traversing and temporary demarcation of the grant have been completed, but the detail survey has not been completed owing to coolies absconding. This work will be done next cold weather. The area demarcated is 1,200 acres. The cost will be borne by private parties.

Survey of a special cultivation grant applied for by the Brahmaputra-Himalaya Company in District Kamrup.

75. An area of 3,600 acres was applied for by this Company; it lies on the north-west of Messrs. Byrkmyre and Lawrie's grants; and another block of 1,200 acres lies about 1¾ miles east of the former. The Brahmaputra-Himalaya Company later resigned this second block which is now included in Messrs. Byrkmyre's grant.

76. The temporary demarcation and survey of the former grant were completed this season.

Some hills were excluded from the grant as they were not required by the Company and the area of the grant as now demarcated, excluding Daranga Mela is 2,302 acres and is surveyed on four 16″ sheets.

The traversing has been connected to the survey of Messrs. Byrkmyre and Lawrie's grants.

77. 11·63 linear miles of traversing were run and 112 angular observations made.

The maps are nearly completed and will shortly be sent to the Deputy Commissioner.

78. The origin of survey is the same as that for other work done by this Department in the District.

The cost is recoverable from the parties.

Relaying of part of the Sylhet District-Hill Tippera boundary, District Sylhet.

79. Some pillars on the district boundary adjoining the villages Haripur and Kistopur Kismet having been found missing at the time of the survey by No. 12 Party, Survey of India, this Department was asked to fix pillars at two points shown on a trace received from the Deputy Commissioner. The relaying was done according to the Revenue Survey maps of 1860-61.

80. While fixing these pillars some iron boundary marks were found out of position close by. Accordingly the whole length from Rajnagar to Sahapur Kismet has been demarcated and eight temporary marks erected.

81. Six linear miles of boundary have been relaid. 12·45 miles of boundary traverse and 25·12 miles of connecting lines were run, 372 angular observations made, 15 azimuths observed and 14 used.

A trace from the comparative map has been sent to the Deputy Commissioner.

The permanent pillars will be laid down by the Subdivisional Officer, Habiganj, as stated in letter No. 1053R., dated the 26th August 1914, from the Deputy Commissioner of Sylhet.

82. The origin of survey is the same as that for other work done by this Department in this District.

The cost has been met from Provincial Funds.

Traverse survey of part of the Hakaluki Haor, District Sylhet.

83. Owing to the silting up of the Haor (*bhil*), cultivation was spreading, and this Department was asked to survey about 5 square miles of the area.

84. 16·63 miles of boundary traverse, 11·19 of subtraverse and 11·29 miles of connecting lines were run.

Thirty-nine traverse marks of the cadastrally surveyed area east of that dealt with this season have been utilised as traverse stations.

The 16-inch plots were supplied to the Deputy Commissioner during the field season, and he was to carry out the detail survey.

85. The origin of survey is the same as that used for other work in this district by this Department.

One Great Trigonometrical Station has been connected with and the value used to locate the village geographically.

The cost was borne by Provincial Funds.

Census of Great Trigonometrical Stations in District Sylhet and levelling bench marks in District Goalpara.

86. An inspection of 48 principal and secondary stations of the Great Trigonometrical Survey in Sylhet District and 63 levelling bench marks in District Goalpara was completed during the season.

Fifteen Great Trigonometrical Stations and 38 bench marks were found in good repair, and 33 Great Trigonometrical Stations and 25 bench marks need repair. Arrangements are being made to have repairs executed. The cost was borne by Imperial (26.—Miscellaneous and Scientific) Revenues.

Survey of Shillong Experimental Fruit Garden.

87. The detail survey of the Shillong experimental fruit garden has been completed during the year, on the scale 64 inches to 1 mile upon 2 sheets; 15 copies were vandyked and supplied. The original will be lodged in the Shillong Drawing Office.

The total area is 49·85 acres.

The cost was borne by the Director of Land Records and Agriculture.

Detail survey of the Shillong Gymkhana Golf Course.

88. This survey was undertaken to settle disputes among the landlords from whom the golf links are leased, and also as a new survey of the golf links was required to bring a map in the Government publication "Shillong and its Neighbourhood" up to date.

89. The survey (103·72 acres) has been completed on the scale 24 inches to one mile. Of the cost of survey, the Golf Club paid Rs. 31 and the Khasi land owners paid Rs. 24 (total Rs. 55). A copy of the large scale map will shortly be supplied to the Deputy Commissioner and 700 vandyked reductions have been supplied to the Government Press for insertion in a new edition of the pamphlet referred to above.

Survey of Mr. Dunn's estates at Umran.

90. An area of 583·22 acres leased by Messrs. Turner Morrison & Company from Mr. Dunn at Umran (near 22nd mile-stone on the Gauhati-Shillong road) was surveyed on the 16″ scale during the year.

The cost was recovered from Messrs. Turner Morrison & Company.

Survey of the Inner Line extension, Lakhimpur district.

91. In view of the proposed extension of the Inner Line of the Lakhimpur District to include certain coal and oil concessions near the Namchik river, east of Margherita, a survey was required showing the proposed boundary in order that a new notification could be issued. Mr. Parry, I.C.S., first selected roughly the line to be adopted as the boundary and indicated the same on a small scale map. The demarcation work was then taken up by Captain C. M. Thompson, I.A., Second Assistant Director of Surveys, and an illustrated report with vandyked copies of the ½ inch sketch map of the boundary was furnished to the Assam Government. The cost was borne by Government.

Survey of four decretal plots in Khasi and Jaintia Hills.

92. Four plots (area 10·945 acres) in the village of Nongsynrih were surveyed at the request of the Deputy Commissioner, Khasi and Jaintia Hills. These had been disputed and in appeal case No. 21 of 1911 the dispute had been decided. The four blocks were connected to each other and to Nongsynrih Hill Station. The origin of survey has been taken as the intersection of Latitude North 25° 24′ 59″·65 with Longitude East 91° 27′ 20″·15 *i.e.*, the spherical values of Nongsynrih Hill Station. At first the wrong boundaries were pointed out to the surveyor. This necessitated a resurvey. The work was then completed.

The cost of the work was wholly recovered from the private parties concerned.

Miscellaneous work.

93. The data and maps of 65 grants recently surveyed by Messrs. Aitken Brothers and Jadu Nath Baruah, Government Approved Surveyors, have been examined during the year under the rules recently issued by the Chief Commissioner, before submission to the Deputy Commissioners concerned.

94. Besides the work referred to above, a great deal of other miscellaneous work has been done, which cannot be described in detail in this report.

CHAPTER III.

Shillong Drawing Office.

General remarks.

95. Mr. A. B. Smart held charge of the Drawing office till the 15th February 1914 when he proceeded on leave and Mr. C. Graham Lee took charge.

Besides the ordinary supervision exercised by the Officer-in-charge and his Assistants, Captain C. M. Thompson, Assistant Director of Surveys, also supervised the work of this office from the end of March onwards.

Reproduction Section.

96. A tabular statement showing the amount of reproduction work executed for Assam is subjoined.

District.	No. of sheets.	No. of copies printed.
Village Maps.		
Cachar	1,946	2,820
Goalpara	59	590
Kamrup	271	8,130
Lakhimpur	17	2,040
Nowgong	62	1,855
Sibsagar	212	6,030
Sylhet	1,022	12,519
Miscellaneous.		
Various districts, etc.	...	30,487
Total ...	3,589	64,471

These figures show a considerable increase over those of last year.

97. The total output for Assam was 64,471 pulls out of an aggregate of the Shillong Drawing Office for Bengal and Assam of 528,865 pulls. Unlike last year no work for Assam was done in Calcutta.

The Assam work has been dealt with expeditiously. The several departments of the Administration have made liberal use of this office for illustrations for reports, making and reproducing charts, diagrams and maps.

98. The recoveries by book debit for reproduction work for Assam amounted to Rs. 2,989-9-8 as against Rs. 3,745-10-0 in 1912-13. I am enquiring into the causes of this deficiency.

School maps.

99. The maps that I am about to prepare and print for the Director of Public Instruction deserve special mention.

They will include provincial, district, and village maps, in the vernacular, for the use of schools. This work is expected to continue for a number of years, and eventually should supply all schools with more efficient teaching material for geography.

Map, Issue and Copying Section.

100. During the year 15 applications were received for plans. Of these, 9 were entertained and 28 plans supplied.

A number of old and perished maps are being copied for the Dhubri Record Room This work is being done partly in the Copying Section and partly in other sections.

Thana Jurisdiction Maps.

101. During the year the following maps have been compiled :—

Cachar	...	...	...	...	2 thanas.
Sylhet	...	...	...	...	1 thana.
Kamrup	...	...	...	...	4 circles.

Record Section.

102. During the year 1,189 original cadastral maps were racked in the Record Room. This brings the total of such maps of Assam stored in the Record Section to 12,790.

CHAPTER IV.

Assam Land Surveying School, Gauhati.

(*Sub-Deputy Collector Maulvi Talmizur Rahman in charge.*)

103. On the abolition of the Survey Schools at Dibrugarh, Silchar and Gauhati, a new combined Land Surveying School was opened at Jhalukbari, 7¾ miles from Gauhati, under the control of the Survey Department, with a staff of a Principal and three teachers.

104. The school opened on the 25th November 1913, first in tents and afterwards in temporary buildings hurriedly constructed at a cost of Rs. 2,619-1-3, before the rains set in. Much inconvenience was caused by the permanent buildings not having been erected in time.

105. In the officers' training class, three members of the Indian Civil Service' one of the Provincial Civil Service and six Sub-Deputy Collectors were trained, all of whom passed successfully. The course for Sub-Deputy Collectors has been since extended to three months, as it was found that a longer period of training than half that time was advisable.

In the mandals' class, out of 50 students, 2 left the school and 43 passed. Owing to lack of accommodation several candidates had to be refused.

106. Among the candidates it may be remarked that there are several men from hill tribes and backward localities. At present it is necessary to lower the standard of examination for such candidates, as otherwise these backward localities would become short of surveyors. Special attention was paid to students of the backward classes.

107. Failed candidates may be allowed to join from 16th October for three months to give them a chance of passing the examination, if they pay the usual tuition fees. This would reduce all possibility of hardship to a minimum.

108. The suggestion regarding retraining of Supervisor Kanungos and mandals already in service, but inefficient, is under consideration. The special training of the superior district survey staff in theodolite work is also under consideration.

109. The health of the boys was good as long as they remained under tents, but when the hot weather started, fever, dysentery, pneumonia and diarrhœa cases occurred. These cases were treated by the Principal, Maulvi Talmizur Rahman, who is an *ex*-student of a Medical College, and I am glad to report that no loss of life occurred. There was a scarcity of drinking water, as the spring that usually supplies the camp dries up considerably in the hot weather, and water then has to be obtained from a *kutcha* well excavated by the Principal of the School. There should be no difficulty regarding water-supply when the Public Works Department has completed the whole scheme of buildings, etc.

CHAPTER V.

Services of Officers.

110. Captain C. M. Thompson, I.A., has worked hard, but still has much of general administration to learn.

Mr. T. Shaw has been on special duty for a considerable part of the year, but has given help and advice from time to time upon questions which I required help in. This officer's services are and always have been of very great value to Assam.

Mr. A. B. Smart has done very good work in the Drawing office.

Mr. O. E. C. Judd has worked the Assam Traverse Party with great energy.

Maulvi Talmizul Rahman has justified his selection for the post of Principal of the Survey School, and has done much good work.

Pandit Damodar Rao, my Personal Assistant, has rendered every possible help, and his services have been invaluable.

F. C. HIRST, *Major, I.A.*,

Director of Surveys, Bengal and Assam (on special duty).

A. S. P. O. (R. & Agri.) No. 95—316—9-2-1915.

No. 122-7169.

FROM

J. McSWINEY, Esq., M.A., I.C.S., DIRECTOR, DEPARTMENT OF LAND RECORDS AND AGRICULTURE, ASSAM,

To

THE CHIEF SECRETARY TO THE CHIEF COMMISSIONER OF ASSAM.

Shillong, the 14th December 1914.

SIR,

I HAVE the honour to submit herewith the annual report for the year ending 30th September 1914.

I have the honour to be,

SIR,

Your most obedient Servant,

J. McSWINEY,

Director of Land Records and Agriculture, Assam.

SETTLEMENT (LAND RECORDS) REPORT.

CONTENTS.

PART I.

	Page.
Resettlement	1—3

PART II.

Land Records	3—9

PART III.

Miscellaneous	9—10
Appendices	11—20

REPORT
ON THE
DEPARTMENT OF LAND RECORDS IN ASSAM
FOR THE YEAR ENDING THE
30th September 1914.

PART I.—RESETTLEMENT.

Dibrugarh town.

The resettlement of the Dibrugarh town was completed during the year in accordance with the order of the Local Administration, dated the 2nd September 1913, referred to in paragraph 2 of the report for 1912-13 and the final report was, I understand, submitted in February last. But as, notwithstanding the facts that all correspondence on the subject had so far passed through my office and that the work was carried out under my supervision, the final report was submitted direct, the results of the operations are not known to me. The town having largely developed since its last resettlement, a satisfactory increase in revenue has no doubt resulted from the revision of the settlement. The work was ably conducted by Srijut Bharat Chandra Das, Extra Assistant Commissioner, whose services have, I am glad to find, been favourably noticed by the Deputy Commissioner.

Goalpara.

2. As anticipated in paragraph 3 of last report the absence of the Sub-Deputy Collector in charge of the Land Records work in the Duars on sick leave prevented the initiation of resettlement operations in Guma Duar in the last field season. Its postponement till this year was sanctioned in the Second Secretary's letter No. 6518R., dated the 4th December 1913. The work was however taken up on the return of the Sub-Deputy Collector (Maulvi Abdur Rasid) to duty and proposals for the system of land classification and the terminology to be used in the area were received from the Deputy Commissioner in August and submitted for orders of the Hon'ble the Chief Commissioner with Mr. Edwards' letter No. 285-1934, dated the 31st August 1914. They have been sanctioned since the close of the year (*vide* the Chief Secretary's letter No. 3092R., dated the 7th October 1914).

As the last survey of the mauza was made at a time when it was still largely covered by jungle and when the boundaries were not definitely fixed, a fresh cadastral survey has been found necessary. Traverse plots have been traced from the original maps by the Survey Department and cadastral survey has now been started by the mandals under the supervision of the Sub-Deputy Collector, who was deputed in August last to the Cachar settlement to study the present system of resettlement work *in situ*.

A resettlement of Bijni and Sidli Duars has again been made with the Rani of Bijni and Raja of Sidli respectively for a term of 10 years in case of the latter and for 10 years or the life time of the Rani, whichever is less, in case of the former. The settlement takes effect from 1st April 1914 and its conditions were embodied in detail in the Local Administration's Resolution No. 2260R., dated the 27th June last. There has been no change in the rates of rent and the calculation of the portion thereof due to the Rani and the Raja as *malikana* and cost of collection. The terms of the lease have been slightly modified with a view to guard against the levy of extra taxes (*abwabs*) in any form and the enhancement of rents during the currency of the settlement.

3. Comprehensive operations supervised by special officers were in progress in the plains districts of the Surma Valley.

Cachar.

The Settlement Officer of Cachar, Mr. W. L. Scott, was given 3 Assistant Settlement Officers, *viz.*, Babus Devendra Kumar Mukherji, Mohendra Kumar Dam and Kamini Mohan Dutta, from the 1st October 1913. For resettlement purposes the district was at first divided into the following 5 groups :—

1. Katigora.
2. Silchar.
3 Chatla.
4. Banraj.
5. Hailakandi.

But later on in the year it was found desirable to divide the Hailakandi group into two, *viz.*, Hailakandi and Vernerpur. So there are in all 6 groups of villages to be dealt with by the Settlement Officer. The programme for the year consisted of

the completion of map revision and record correction in Katigora, Silchar, Hailakandi and Vernerpur groups, recalculation of areas and preparation of draft *jamabandi* and *kacha pattas* for the same areas. The field work was completed, but the recess office work proved too heavy to finish in more than the first 3 groups in time to allow of attestation work being taken up early in the present season (1914-15).

The total number of map sheets for revision during the year was 1,394 of which 1,220 were revised leaving 174 only to be dealt with this cold weather. In great majority of cases the correction of the former maps was all that was required: to facilitate this blue prints from the original cadastral sheets were struck off in the Shillong Drawing Office. These are corrected in pencil in the field and the pencil line inked with blue ink when the sheets are brought to office. When the maps are finally passed the lines will be inked in black and thus the sheets will be fit for direct reproduction instead of being traced on tracing cloth. In the course of map revision *dag chithas* were brought up to date by recording in them all changes of possession which remained unentered. The number of such mutations proved very large (90,798) and this threw heavy work on the Assistant Settlement Officers who received some assistance from the officers who attended the Settlement Training class and the Land Records Sub-Deputy Collectors at Silchar and Hailakandi. A 4th Assistant Settlement Officer has been posted to the Settlement from 1st October 1914. But the current season's programme, which comprises record attestation and submission of assessment proposals for the 3 groups and map-revision, record-writing, area calculation and preparation of draft *jamabandis* of the other 3 groups, is pretty heavy even for four Assistant Settlement Officers.

I have much pleasure in repeating my own previous remarks and the purport of Mr. Edwards' with regard to the efficiency of the Settlement Officer, Mr. Scott and his assistants, more especially, Babu Devendra Kumar Mukharji: the other Assistant Settlement Officers—Babu Mahendra Kumar Dam, Babu Kamini Mohan Datta and Maulvi Muhamad Ali, are doing well.

Sylhet—(i) Jaintia Parganas.

4. Mr. Scott was appointed Settlement Officer for this area in addition to his duties as Settlement Officer, Cachar, with effect from 1st July 1914, and made all preliminary arrangements for starting the resettlement operations from 1st October 1914. The kanungos' sub-circles and patwaris' lots have been rearranged and the additional staff has been appointed. Babus Giris Chandra Nandi Mazumdar and Surendra Nath Datta have been appointed Assistant Settlement Officers from 1st October 1914 and work is now in progress. The programme of work framed by the Settlement Officer for 1914-15 is the map revision and record correction of the whole area of nearly 500 square miles. The Settlement Officer's proposals regarding the classification of land and the terminology to be used were sanctioned in Chief Secretary's letter No. 3416R., dated the 18th August 1914.

(ii) *Nankar* and other temporarily-settled estates.

The resettlement of these small estates was completed during the year and the final report exhibiting the results of the operations was received shortly before the close of the year and has since been submitted to the Local Administration with my letter No. 444-5576, dated the 6th October 1914. The report shows that cultivation in these estates has extended by 25·3 per cent since their last settlement and that the resettlement has resulted in an increase of Rs. 5,286 over the old revenue of Rs. 15,215 or 35 per cent. of which 11 per cent. is due to extension of cultivation. Besides this Rs. 2,210 have been added to the revenue for lands newly taken up and settled along with the estates.

The very widely scattered nature of the estates which consist of small patches of land situated in different villages intermixed with permanently-settled estates and the absence of any permanent marks on their boundaries rendered the work a difficult and arduous one and Babu Tarini Charan Nandi deserves commendation for the satisfactory manner in which he has completed it. This I understood practically left no temporarily-settled areas awaiting resettlement in Sylhet and ensured that all would be settled at *ilam* rates and would fall in together in 1921-22: but during a recent visit to Sylhet I discovered that the calendar of revenue settlement is apparently incorrect and that there are other temporarily-settled estates falling in now. The omission of these from the calendar reflects no great credit on the Revenue office of Sylhet.

(iii) *Dassana* area.

Mr. C. Gimson, I.C.S., the Settlement Officer for the experimental area mentioned in last year's report joined on 1st July 1914 after the completion of his training at Dacca, studied the records and made all preliminary arrangements for commencing the cadastral survey from 1st October 1914.

As a preliminary step Maulvi Lutfar Rahman was deputed to prepare a draft general register for the area in the three parganas with a small staff of Supervisor Kanungos and Amins. He finished the work in June 1914 at a cost of Rs. 714 (exclusive of his pay) and in August last submitted his final report which was forwarded to the Chief Secretary with letter No. 455—5116, dated the 11th September 1914. The draft register, which was prepared on the expressed opinion of the Board of Revenue, Eastern Bengal and Assam, regarding its necessity, will not be of much use. I have recently seen it at Sylhet : the information which it contains was all that could be gathered, but is of no advantage to the settlement.

The area was traversed by the Survey Department in the field season of 1913-14. Babu Tarini Charan Nandi and Maulvi Lutfar Rahman have been appointed Assistant Settlement Officers since the close of the year and the work is now in progress. During the rains various questions relating to the forms to be used, details to be entered in the record-of-rights and the manner in which *khanapuri*, etc., are to be carried out were discussed. As a result the forms have been approved, cadastral survey and *khanapuri* rules have been framed, and rules containing the details for entry in the records have been drafted and notified in the Gazette for criticism. Rules for the recovery of the cost of survey and demarcation referred to in the last report have also been published for criticism under section 157 of the Land and Revenue Regulation.

Part II.—Land Records.

Mandals and patwaris.

5. The sanctioned strength of mandals and patwaris remained unchanged during the year, *viz.*, 237 in the first grade, 698 in the 2nd grade and 237 in the third grade. The full number was actually entertained in all the districts. Extension of cultivation has increased the work of some lots so much that the mandals in charge cannot manage them efficiently : proposals have been made for an increase of 2 mandals in Nazira Circle of Sibsagar, 1 in Nalbari Circle of Kamrup, and 1 in North Lakhimpur. In Goalpara the whole of the Ripu Duar has now been cadastrally surveyed and the sanctioned staff of mandals is reported to be quite inadequate to keep the maps and records up to date : the Deputy Commissioner has proposed to create 4 new lots in this area. This proposal is now under consideration.

Steps continued to be taken to secure resident recorders and the number of recorders' resident in their lots or exempted from residence under rule 5 of the Land Records Manual has increased by 31 ; so that over 89 per cent. of the mandals and patwaris now reside in their lots or have been exempted by superior authorities, and only about 10 per cent. are non-resident. The following statement shows the actual numbers of non-resident recorders in each district on the 30th September 1913.

Statement showing actual number of non-resident recorders in each district on 30th September 1914.

Name of district.	Number of resident mandals and patwaris.	Number of non-resident mandals and patwaris.	Number of mandals and patwaris who have been exempted by superior orders.	Total.	Number of mandals and patwaris who have become resident or been exempted during the year under report.	Remarks.
1	2	3	4	5	6	7
Cachar	64	16	19	99	21	
Sylhet	54	11	4	69	2	
Goalpara ...	33	4	.....	37	7	
Kamrup	252	23	25	300	22	
Darrang	95	27*	24	146	1	*Two temporary mandals, 11 mandals being within 2 miles or adjacent to their lots who have not been exempted have been shewn under this column.
Nowgong	156	.....	16	172	2	
Sibsagar	170	18	20	208	7	
Lakhimpur ...	117	11	1	129	12	
Garo Hills ...	4	8	.....	12	.....	
Total	945	118	109	1,172	74	

Every where endeavours are being made as far as practicable to train local men with a view to replace those non-resident, but in some places, *e.g.*, the Garo Hills, the backward condition of the people renders it difficult to secure suitable candidates for training. There has been a good deal of improvement in Cachar, Kamrup and Lakhimpur. The increase in the number of non-resident mandals in Darrang rather points to the fact that the figures furnished in the previous year were not correct. The Deputy Commissioner remarks that 11 of the men returned as non-resident reside within 2 miles of their lots, but have not yet been exempted from residence. If their exemption is not likely to interfere with the prompt and regular discharge of their duty, this should be granted.

Supervisor Kanungos.

6. The sanctioned cadre of the Supervisor Kanungos was strengthened by the addition of one post in Jorhat subdivision, Sibsagar, and two in Nowgong. Two of these posts having been sanctioned in the 2nd grade on Rs. 30 and one in the 1st grade on Rs. 40: there are now 47 posts in the 1st grade and 23 in the 2nd grade besides the Mauzadar Kanungo of the Eastern Duars who receives Rs. 25 per mensem for Land Records work. General remarks on the Land Records establishment of the province will be found in paragraph 12. A proposal for the appointment of another Supervisor Kanungo in Goalpara is under consideration.

Punishment.

7. During the year 1,001 mandals and patwaris were in all fined a sum of Rs. 1,546-8-2, details of which are given below:—

District.	Total number of recorders fined.	Fines imposed on recorders for				Fines subsequently remitted.	Net amount of fines imposed.
		Absence without leave.	Delay in submitting papers.	Other causes.	Total.		
1	2	3	4	5	6	7	8
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs a. p.	Rs. a. p.	Rs. a. p.
Cachar	80	5 0 0	3 0 0	96 4 0	104 4 0	5 4 0	99 0 0
Sylhet	4	...	1 8 0	...	1 8 0	...	1 8 0
Goalpara	9	7 0 0	7 0 0	4 8 0	18 8 0	...	18 8 0
Kamrup	358	65 0 0	209 12 0	104 12 8	379 8 8	8 4 7	371 4 1
Darrang	190	140 0 0	35 0 0	168 12 0	343 12 0	6 3 11	337 8 1
Nowgong	140	10 8 0	174 8 0	125 8 0	310 8 0	3 0 0	307 8 0
Sibsagar	160	179 0 0	105 8 0	32 0 0	307 8 0	2 0 0	305 8 0
Lakhimpur	59	46 8 0	6 8 0	52 0 0	105 0 0	4 4 0	100 12 0
Garo Hills	1	...	...	5 0 0	5 0 0	...	5 0 0
Total ...	1,001	444 0 0	542 12 0	588 12 8	1,575 8 8	29 0 6	1,546 8 2

The average of the fines works out approximately to the same figure (Re. 1-8-8) per recorder as in the two preceding years. It will be seen that the number of recorders fined has increased considerably since last year. This, I hope, is due to more effective supervision of their work by superior officers and not to deterioration of the former both in punctuality and quality of work.

One Supervisor Kanungo in Kamrup was fined Rs. 5 during the year and one first grade Supervisor Kanungo in Lakhimpur was suspended for submitting false diaries. His removal from service was under consideration when the year closed.

Travelling allowance of subordinate staff.

8. The amounts of travelling allowances drawn by supervisor kanungos and mandals and patwaris were Rs. 1,350-5-3 and Rs. 1,731-9-6, respectively. The increase in the travelling allowance of the recorders over that of the previous year is no doubt due to the grant of halting allowance during the recess to those recessing at district headquarters who live five miles away. Though this concession was confined strictly to district headquarters, I recently found that the Deputy Commissioner, Cachar, had sanctioned it for the patwaris of Hailakandi and I was just able to stop the drawing of the money. As before, Sylhet heads the list for the reason previously stated.

Name of district.	Travelling allowance drawn by Supervisor Kanungos.			Travelling allowance drawn by Mandals and patwaris.		
	Rs.	a.	p.	Rs.	a.	p.
Cachar	7	0	6	32	11	0
Sylhet	581	3	3	801	3	3
Goalpara	65	0	0	142	0	0
Kamrup	217	5	6	179	11	0
Darrang	67	6	6	104	3	0
Nowgong	39	8	0	122	4	0
Sibsagar	30	12	6	90	2	0
Lakhimpur	252	5	0	129	13	6
Garo Hills	89	12	0	159	9	9
Total ...	1,350	5	3	1,761	9	6

Sub-Deputy Collectors.

9. During the year sanction was accorded to the creation of a new Sub-Deputy Collector's circle in Nowgong made up mainly of the hill mauzas (*vide* the Chief Secretary's letter No. 3296-R., dated the 10th August 1914). These mauzas were under the direct supervision of the Deputy Commissioner, but he was unable to devote any time to their inspection, whereas careful supervision was needed in view of the extensive immigration to these mauzas of colonists from the Surma Valley. The creation of the circle, therefore, became a necessity to avoid loss of revenue and land speculation on a large scale by the colonists. The other circles of the district were at the same time re-distributed, as their previous distribution was unsatisfactory.

The work done by Sub-Deputy Collectors in charge of Land Records work is shown in Appendix B. A comparison of the statement with that of the preceding year will show that there has been some further improvement generally in the work of the Sub-Deputy Collectors. But there is yet much room for improvement and a good deal more energy and activity is required in many circles to bring the records up to the desired standard. It is obviously impossible to expect any improvement if there are many changes and if circles are left in the joint charge of the Sub-Deputy Collector of other circles. Three Sub-Deputy Collectors were in charge of Barpeta circle and four in successive charge of Bojali in Kamrup. In Darrang Behali circle was looked after by the Tezpur Sub-Deputy Collector for the whole field season. In Sibsagar three Sub-Deputy Collectors held Jorhat circle and two held Moriani circle, which since June has been under the Jorhat Circle Sub-Deputy Collector. There are other examples, which I need not mention, but I would point out that Babu Tara Charan Desmukhya held charge of the Eastern Duars, Bojali and Dibrugarh circle at various times in the last year. The unfortunate result to land records of the promotion of good men can be overlooked, but unless we can keep officers in the same circle for at least three years it is useless to expect improvement. Furthermore we are short-handed as Sub-Deputy Collectors are taken on to other duties : this entails the danger of a loss of revenue and inconvenience to the people, for it is impossible for one man to supervise two circles.

Among the officers whose good work I should like to notice are Babu Pramod Chandra Sen Gupta of Nalbari, Maulvi Abdur Rasid of the Eastern Duars, Rai Sahib Betharam Sarma of Tezpur, Babu Surendra Nath Dutta of Kanairghat, Srijut Khageswar Barua of Jorhat and Bojali, Srijut Jagannath Bojar Barua of Silghat, Srijut Bhola Nath Kakati of Dhing and Babu Biraja Kanta Ghosh of Karimganj. I am glad to see that appointments to the Provincial Service were given during the year to Babu Mahendra Kumar Dam, Srijut Janaki Nath Das Faisalanvis, Maulvi Azimuddin Ahmad and Babu Guru Charan De Chaudhuri. There are black sheep in every flock and I am afraid we have a few very inefficient officers whom it seems to be impossible to reclaim : the names of these officers will, under the Chief Commissioner's orders, be reported separately.

Progress of survey.

10. Appendixes C and D show the progress of survey in each plains district of the province. As explained in paragraph 12 of the report for 1912-1913, statement C is not of much value as far as the temporarily-settled districts are concerned and I proposed to confine it to Sylhet and Goalpara, but as no orders were passed I have included all plains districts. The figures in column 7 of Appendix D furnish areas for which a record-of-rights has been prepared and exclude the areas which have as yet been traversed only. It will be seen that on the 30th September 1914 cadastral survey and preparation of records were complete in 26·39 per cent. of the area of the plains districts. The total area includes large stretches of waste land for which detailed maps and record-of-rights are still unnecessary. The most important portion of the outstanding area consists of the permanently-settled tracts of Sylhet and Goalpara, an experiment in the survey and settlement of which has been commenced in the former district, as explained already.

In the last year extension surveys were carried out in all the districts except Kamrup, Nowgong and Lakhimpur. The actual area surveyed was 137 square miles, mostly in the Eastern Duars of Goalpara. In this tract the mandals trained by the Survey Department in theodolite work carried out the traverse of the small area of 5·96 square miles which was outstanding from the previous year in Ripu and Guma mauzas, under the supervision of the Sub-Deputy Collector Maulvi A. Rashid. He also supervised the cadastral survey and record-writing of 101 square miles comprising the result of this year's traverse and the area which remained unfinished from that traversed in the two preceding years. Both the cadastral and the traverse operations were carried out without interference with either the regular or the supplementary settlement work and reflect great credit on the Sub-Deputy Collector, who notwithstanding his absence on account of illness, managed the work well. He and his Supervisor Kanungo ran 162·21 linear miles of check lines. This extension survey has resulted according to the Deputy Commissioner's report in an increase of 43,156 bighas in settled area and Rs. 17,621 in revenue.

Extension survey on a fairly large scale was also carried out in Sylhet, where the area dealt with lay entirely in the Karimganj subdivision and was taken up as the result of my inspection of the land records work there. The programme made out has not yet been finished. The work in Kamrup referred to in my last report was not done last year, but is expected to be taken up in this season. Besides this certain areas in Nowgong are being traversed by plane-table for cadastral survey this year by the local agency. The Deputy Commissioner, Sibsagar, has applied to the Director of Surveys for the traverse of some villages with a view to their cadastral survey by the mandals during the present field season. The great difficulty is that the Survey Department cannot supply traverses and that there are large arrears of theodolite traverse work, partly for new cultivation and partly to replace the old plane-table traverse. The Director of Surveys' scheme of training picked recorders from each district in theodolite survey proved a success in Goalpara, but no progress has been made in other districts except Kamrup, three mandals of which have been trained recently. It was proposed to have a number of men trained in every district and to give them special allowances, and as the selection of the men and the areas to be traversed appeared to appertain to the Land Records Department, Deputy Commissioners were addressed on the subject during the year, and I hope, with their help, to draw up a scheme for the consideration of the Chief Commissioner, in consultation with the Director of Surveys.

Maintenance of Records.

11. The records were as usual maintained by the Land Records staff. Appendix E gives statistics of mutations effected during the year. The statement has this year been compiled in the revised form prescribed for the mutation return in Second Secretary's letter No. 2622R., dated the 31st October 1913. As usual the percentage of mutation to pattas is much larger in the Surma Valley than in the Brahmaputra Valley for the reasons given in the previous reports. The inception of re-settlement operations in Cachar has given an extraordinary stimulus to mutation work there and the results in that district account for the majority of the changes in the province. Similar results are expected next year from the Jaintia parganas. There were considerable mistakes in the reported numbers of the total numbers of pattas in Cachar, Goalpara and Darrang and, to save time, I have taken the figures from the report of last year, which cannot be far from correct.

State of Land Records.

12. I inspected in the field the work in the three circles of Nowgong, the six circles of Sibsagar, the two circles in North Lakhimpur and Behali Circle in Darrang, which was omitted in the previous year. The inspection showed as usual good work and bad according as the staff was properly supervised by the Sub-Deputy Collector and the Deputy Commissioner or Subdivisional Officer. I have already referred to the results following from frequent changes of the Sub-Deputy Collectors or from the absence of one officer of this standing from a circle. The results on the whole were not satisfactory. In Nowgong previous neglect by most of those concerned had resulted in bad work in Silghat and Dhing Circles, but the present staff set to work in earnest last field season and matters are now on a better basis. In Moriani there were too many changes and *interregna* to warrant any expectation of efficiency : in Sibsagar previous neglect and in Nazira the same cause, continued up to the time of my inspection, had accumulated a great number of errors. In North Lakhimpur inexperience and doubling of the circles under one man caused poor results. In Behali weak supervision and the absence of an officer in charge were

equally unsatisfactory. That bad work can be turned to good is shown by the example of Nowgong : but this result cannot be achieved without a fairly permanent and good Sub-Deputy Collector and continual driving by the Deputy Commissioner or Subdivisional Officer.

As in previous reports, I reproduce herewith a note by my Land Records Assistant on his inspection :—

I was in charge throughout the whole year and spent 278 days on tour. I examined the records of 474 mandals in 16 circles and 27 sub-circles and ran 25·46 miles of check lines. Detailed reports showing the results of my inspections are recorded separately for each Kanungos' sub-circle and submitted for orders on the conclusion of each inspection. A summary of the reports is given below. It will be seen that the improvement in the condition of the records which was noticed last year has made but very slow progress, and that too only in a small number of circles. In some circles things were the same as before, while in the others specially Chayygaon and Bojali, things have gone from bad to worse. The general check of the records which was being urged from time to time has been finished in the majority of the circles and in the rest it is in progress. But the work has not been done in the way it ought to have been done. Suggestions and instructions as to the manner in which the check was to be made were offered in the last year's report as well as in the inspection notes, but it is to be regretted that they were not properly followed in every circle and the result has been that the records, after so much criticism in the past, are still far below the required standard, and will continue in this state if the Circle officers and the Kanungos are allowed to carry out the work in the way they have been doing. Another factor which is contributing to swell the number of mistakes in the periodic records is the practice, which has of late become very common, of issuing periodic leases every year for the new lands mapped by the mandals without having their survey area calculation and classification previously checked by a superior officer. With a view to draw the special attention of the Circle officers to this, the most important branch of their duties, it is proposed to make some additions to the existing rules on the subject in the course of the revision of the Land Records Manual which is now in hand.

Dibrugarh Circle in charge of Babu Guru Charan Chaudhuri :—

Lakhimpur.

The records were found in fairly good condition, but more supervision over the mandals' field work was required on the part of the Kanungoes as well as the Sub-Deputy Collector. The survey of new land during the spring tour was not sufficiently supervised. In course of my field inspection I found that a good deal of land which should have gone into the regular settlement had been left out. Due attention appeared to have been paid to the maintenance of the survey marks, but recording of hot weather crops was neglected to a large extent.

Subansiri Circle in charge of M. Nurul Hussain Hazarika :—

The results of my examination of the records and testing of work in the field were not found satisfactory. The testing of field work done by the Kanungo and the Sub-Deputy Collector was not sufficient. The classification of new land in the unsurveyed areas was carried out in a manner which was contrary to the standing orders. The survey marks which I inspected were found in good condition. Proper attention was not paid to the inspection of crops during the mandals' spring tour.

Ranganadi Circle in temporary charge of M. Nasib Ali Majumdar :—

For the greater part of the year the circle was in charge of Babu Pramod Chandra Roy, since appointed Excise Superintendent, whose touring and testing of field work was very inadequate The records and the field work of a number of mandals were badly in need of the careful attention of the Sub-Deputy Collector, while those of the rest were found in fairly good condition. Due attention was not paid to the inspection of the hot weather crops and to the maintenance of survey marks. Mutation work though very light was neglected by the Sub-Deputy Collector in several mandals' lots.

Nazira Circle in charge of Srijut Annada Charan Bhattacharji :—

Sibsagar.

I inspected the work of only the Eastern sub-circle. The records were reported to have been checked with a view to remove the mistakes which had been pointed out by me at my previous inspection, but the work did not appear to me to have been done very carefully in all the mandals' lots, as mistakes were again found by me. On the whole the records were found in somewhat better condition than what I saw before. Survey marks required more attention than what appeared to have been paid.

Moriani Circle in charge of Srijut Gunahas Gossain :—

I inspected the work of only one of the two sub-circles here. The several changes in Circle officers during the year proved detrimental to the land records work. The former Sub-Deputy Collector, Srijut Bholanath Kakati and the Kanungo, Katiram Das, neglected not only to do their own duties well, but also to exercise proper supervision over the mandals. Though the records were found in fairly good condition, they were still far below the required standard, and in fact I noticed no marked improvement since my previous inspection. The *faut-ferar* and *jotrahin* dags were not sufficiently tested by the Sub-Deputy Collector. The survey marks in several mandals' lots were badly in need of attention. Mutation work, though very light, did not appear to have been kept well up to date as I noticed many pending entries in the *chithas*.

Golaghat Circle in charge of Babu Krishna Behari Chaudhuri :—

In the northern sub-circle appreciable improvement was noticed in the condition of the records of the majority of the lots, while those of the rest were very much neglected. In the southern sub-circle the state of things were found as bad as before, if not worse. The records were reported to have been checked after my previous inspection, but the work was evidently done in a very careless manner. The outturn of field work of the Kanungo of the latter sub-circle was inadequate.

Kamargaon Circle in charge of Srijut Surendranath Gohain :—

The Kanungo neglected to have the records carefully checked in spite of the warning which he had got previously and in consequence many mistakes in area calculation and land classification were again brought to light in several lots. In the other lots the work was found fairly good. The Kanungo's supervision over the mandals appeared to have deteriorated to some extent.

Kalaigaon Circle in charge of Srijut Tarini Charan Sarma :—

Darrang.

The records, on the whole, were found in a fairly good condition, but there was room for further improvement, as a number of mistakes in area calculation and land classification was again discovered by me. In several lots inspection of survey marks was neglected by the mandals. Survey mistakes were found in Kalaigaon sub-circle and the amount of field work done by the Kanungo of that sub-circle was insufficient. No arrears of field mutation were noticed, but I found several cases in which the Sub-Deputy Collector's mutation orders passed in the *chitha* had not been correctly posted in the Jamabandi.

Mangaldai Circle in charge of Srijut Uma Charan Gohain :—

The condition of the records did not show much improvement on what I saw before. They had not been checked thoroughly, as suggested in my last inspection note, with the result that my examination again brought to light many bad mistakes in land classification. Classification of new cultivation in the fluctuating areas, in contravention of the standing orders, was still carried on though I had previously drawn attention to the wrong procedure. The results of my test measurements in Mangaldai sub-circle were found satisfactory. Crops and survey marks appeared to have been sufficiently inspected. I found no arrears of field mutations. The Sub-Deputy Collector and the Kanungos supervised the field work sufficiently, but neglected to check the recess work of the mandals.

Roha Circle in charge of M. Anwar Hussain :—

Nowgong.

The records were found in much better condition than before, but further improvement was required, as I again found many mistakes in area calculation and land classification. The amount of *chitha* entries tested by the Kanungos in the field as well as in office was not sufficient.

Gauhati Circle in charge of Srijut Janakinath Das :—

Kamrup.

The results of the inspection of field work were fairly satisfactory, but a large number of mistakes were again discovered in the records. The suggestions left in my previous inspection notes to have the records carefully checked had not been carried out properly and the records were still far below the required standard. In certain cases even the mistakes pointed out by me before were not rectified.

Chaygaon Circle in charge of Kamal Chandra Kakati :—

The condition of the records has gone from bad to worse and no proper steps appeared to have been taken to effect any improvement though instructions and suggestions in that direction were left at previous inspections. Bad survey mistakes were discovered by me in the field and mistakes in area calculation and land classification were found in the records to be more frequent than before, and I noticed that in some cases even the mistakes pointed out by me at previous inspections were left uncorrected. The present Sub-Deputy Collector was not, however, responsible for all this, but there is no doubt that the Kanungos has been grossly neglecting their duties. The procedure followed here in classing new land in the areas left out of the scope of the re-settlement operations was not in accordance with the standing orders on the subject. The former Sub-Deputy Collector left the majority of the mandals' lots unvisited and tested none of the *faut-ferrar* and *jotrahin dags*.

Kamalpur Circle in charge of Srijut Tarini Charan Chaudhuri :—

The records, on the whole, were found in better condition than before, though there was still room for improvement as mistakes were again found in them. Mutation work was found well up to date.

Rangia Circle in charge of Srijut Hari Prasad Das :—

Bad mistakes were found in the field as well as in the records. No appreciable improvement in the condition of the records was noticed. Field mutations were well up to date in Rangia sub-circle, but not in Tambulpur sub-circle, where my local verification brought to light many *pattas* standing in the names of deceased persons. The work done and the supervision exercised by the kanungoes were very inadequate.

Nalbari Circle in charge of Babu Promod Chandra Sen Gupta :—

The testing of field work done by the kanungoes of Barkhetri and Baroma sub-circles was not sufficient. The records were being checked to remove mistakes the existence of which was pointed out at my previous inspections, but the arrangements made for carrying out the check were defective and in consequence mistakes were again found in the records which had been already checked. The wrong assessment of the homesteads in the fluctuating areas in Barkhetri sub-circles made in contravention of the existing orders and other mistakes in the Baroma and Nalbari sub-circles pointed out at my previous inspection were not fully rectified.

Bojali Circle in charge of Srijut Khageswar Barua :—

The condition of the records did not show any improvement in spite of the criticisms made at the inspections during the previous three years. They were still found full of mistakes and yet no proper steps appeared to have been taken to rectify them. The work suffered mainly from slack supervision on the part of the former circle officers.

Garo Hills.—The land records work in this district is confined to the four plains mauzas and is carried out by one kanungo and 12 mandals: there is no Sub-Deputy Collector. The records are based on a plane-table traverse, which has been going on since several years. Taking all the circumstances into consideration the records were being maintained fairly well. No proper steps appeared to have been taken to erect and maintain survey marks.

Inspection of land records by district staff.

13. It is satisfactory to note that my expectation of better results in the matter of the inspection of land records work by Deputy Commissioners and Subdivisional Officers in the past years has been generally realized. There has been marked improvement in all districts and Deputy Commissioners especially have exerted themselves a good deal in this direction. While the work of all the District Officers was fairly satisfactory, the amount of testing done by Colonel Herbert, Colonel Playfair, Mr. Dawson, Mr. Bentinck and Mr. Laine may be specially mentioned. Lieutenant-Colonel Playfair tested the field work of 14 and the papers of 51 mandals, ran 811·86 chains or 10·14 miles of check lines and inspected 32 survey marks. Mr. Dawson, besides correcting *jamabandis* and effecting some mutations in the hill circle examined the papers of 46 lots and ran check lines to the extent of 552 chains or 6·90 miles: besides this personal check, his continued supervision of the Sub-Deputy Collectors has resulted in a very great improvement in their work. Lieutenant-Colonel Herbert was not in charge of the district throughout the year, but he examined the records in 30 lots in office and in the field, ran check lines aggregating 126·31 chains in length and inspected a fairly large number of survey marks. Colonel Halliday, Mr. Bentinck and Mr. Jackson did a good deal of testing. Generally speaking, the Subdivisional Officers in the Assam Valley looked into the work of their staffs, but I think that they could have done more and certainly as much as their Deputy Commissioners. The Subdivisional Officers of Sylhet have done some little testing of land records, which are not so important here as in the other valley, but I think that the continued complete absence of any checking by the Subdivisional Officer of Karimganj, where there is quite a good area of temporarily-settled land in Pratabgarh, is distinctly unsatisfactory. The Deputy Commissioner of Sylhet is generally too busy to attend to land records in the field, with the result that the work in the Jaintia parganas of the sadr subdivision receives no superior officer's check; this area is now under re-settlement and the necessity for check by the Deputy Commissioner will not arise for some years. Similarly Cachar is being re-settled and all the staff is under the Settlement Officer.

Survey marks.

14. The statement in appendix F contains the results of the inspection of survey marks in the province. It is to be regretted that the totals shown this year differ from those of the last preceding year in most districts. There has been a decrease in the total of over 6,000 marks, but none of the districts countributing to the decrease except Kamrup furnish any explanation for this. The Deputy Commissioner, Kamrup, attributes the discrepancies from year to year to the inaccuracy of the figures reported by the Supervisor Kanungoes on which the returns are based. In Lakhimpur, the number of survey marks was added to during the year by the demarcation of Dibrugarh town. I am taking steps as far as possible to get the discrepancies reconciled and expect to be able to furnish more accurate figures in my next report. The percentage of marks found in good order in the year under report was much higher than that in the previous year. The number lost or left unvisited has also materially diminished, but the number left unrepaired is still large and does not reflect credit on the land records staff. The attention of Deputy Commissioners is invited to this fact.

Survey schools.

15. The three survey schools at Silchar, Gauhati and Dibrugarh were abolished with effect from the 2nd January 1914 on the opening of the mandal's class in the Provincial Survey School at Jhalukbari near Gauhati under the Director of Surveys. As these schools existed only for one term of the year under review, the cost incurred and the results achieved are not of sufficient importance to be noticed in details: in all 52 candidates obtained 2nd class and 4 first class certificates besides 23 certificates granted by me for good work in extension survey, of which 21 were second class and 2 first class certificates.

PART III—MISCELLANEOUS.

Changes and reforms.

16. The year was not very rich in reforms of general interest and importance connected with the Department. This was due to some extent, to the fact that attention had to be largely devoted to the arrangement of details for the four re-settlements now in progress, but much more because many of the desired reforms have been included in the revised English edition of the Land Records Manual, which is now almost ready for submission to the Local Administration for approval.

(*a*) Sanction was accorded during the year to various reforms proposed in the previous year and referred to in paragraph 18 of the last report, *viz.*—

(1) Improvement of the status of Registrar Kanungos by the grant of higher rates of pay, Rs. 70 and Rs. 50 in the most important subdivisions, *viz.*, Sylhet, Silchar, Hailakandi, Gauhati and Jorhat (*vide* Under-Secretary's letter No. 1217F., dated the 25th February 1914).

(2) Increase in the number of Rs. 10 field allowances for Supervisor Kanungos from 11 to 26 (*vide* Second Secretary's letter No. 6271R., dated the 18th November 1913).

(*b*) Under rule 192 of the Land Records Manual, Circle Sub-Deputy Collectors were required to be on tour for 175 days from the 15th October to the 15th of May, which meant that out of 213 days the Sub-Deputy Collectors could spend only 38 days at the headquarters. But this was found to be too short for the duties they are required to perform there in connection with the winter recess work, receiving relinquishment applications, etc. The period within which the prescribed tour should be performed was therefore extended so as to last from 1st October to the 15th June (*vide* Chief Secretary's letter No. 2295R., dated the 29th May 1914).

(*c*) In course of my inspection in the last winter it came to my notice that in some places periodic leases were issued for lands still in jungle which had never been cadastrally surveyed and for kabula lands. A correction slip to the Land Records Manual giving effect to my suggestions to avoid these mistakes is under issue.

(*d*) As already stated rules prescribing the details to be entered in the record-of-rights in the Sylhet experimental area were submitted for approval. They have been notified for criticism with Revenue Department Notification No. 4129R., dated the 15th October 1914, since the close of the year.

(*e*) The draft revised rules under sections 12, 29, 33(2) and 33(3) of the Land and Revenue Regulation relating to re-settlements were finally approved and issued with Revenue Department Notification No. 809R., dated the 16th February 1914.

(*f*) Rules under section 12 of the Land and Revenue Regulation for the grant of leases and the settlement of land revenue in respect of lands for ordinary cultivation outside the limits of towns were re-drafted by Mr. Edwards during my absence on leave and submitted with letter No. 33-4327, dated the 17th July 1914. They are now under consideration.

(*g*) Rules for recovery of the cost of survey and demarcation, drafted in connection with the survey and settlement operations in the permanently-settled areas, and referred to in paragraph 18 (*f*) of the report for last year have been published for criticism with Revenue Department Notification No. 3774R., dated the 10th September 1914.

(*h*) A matter of importance to this Department is the power of Assistant Settlement Officers in respect of undisputed mutations delegated to mauzadars in the Local Administration's Resolution No. 1994R. of 4th May 1914. The effect of this delegation will be watched with interest.

Settlement training.

17. In accordance with the revised rules for survey and settlement training of officers, 3 Assistant Commissioners, 1 Extra Assistant Commissioner and 6 Sub-Deputy Collectors underwent a course of training in survey at Gauhati and in settlement in Cachar and were passed as qualified.

Charge and tour.

18. I was in charge of the Department from the 1st October 1913 to the 1st April 1914 and from the 9th September to the close of the year. Mr. Edwards held charge from the 2nd April to the 8th September 1914. I spent 113 days on tour and Mr. Edwards 43 days. I have already referred to my inspections. Mr. Edwards devoted attention during his rains tour to land records works in all the five subdivisions of Sylhet and to settlement arrangements in Cachar and the permanently-settled part of Sylhet: he arranged most of the details of the latter and directed the Settlement Officer in the right track.

J. McSWINEY,

Director of Land Records and Agriculture, Assam.

APPENDIX A.

Progress of re-settlement work in Assam during the year ending on 30th September 1914.

Name of district.	Number of villages.										Expenditure during the year.
	Correction of maps and Records.		Soil classification.		Record attestation.		Revenue attestation.		Submission of rate reports.		
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	
1	2	3	4	5	6	7	8	9	10	11	12
Cachar	1,394	1,220	1,394	1,220	...	...	...	...	...	...	...

APPENDIX B.

Work statement of Sub-Deputy Collectors for the year ending 30th September 1914.

Name of Circle or Subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaries in the circle.	Number of mandals or patwaries whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CACHAR SYLHET.															District under re-settlement.
Sylhet Sadar ...	Maulvi Lutfur Rahman ... „ Daliludin Ahmad ...	3	3	461	...	...	8 chains.	...	...	...	...	...	Mushraf Ali in place of Chandra Kumar Bose.	Work not properly done.	
Gowainghat ...	Babu Ananda Bihari Mitra Maulvi Delwar Bukt Mazumdar.	30	30	320	253	3	62 chains.	17,534	...	196	4,245	63	Jogeswar Dutta ...	Best in the circle.	
													Hari Mohan Das ... Madaris Ali ...	Worked well.	
Kanairghat ...	Babu Surendra Nath Dutta	16	16	228	183	...	...	950	65	172	7,836	250	Fazil Bukah ...	Requires careful watching.	
Karimganj ...	„ Birajakanta Ghosh ...	4	4	347	77	22	3·74 miles.	350	2	88	83	...	Abdul Hassen ...	Good.	
Patharkandy ...	Maulvi Mushrafullah ...	6	6	218	127	...	...	859	147	52	659	73	Gopal Chandra Chatterjee.	Ditto.	
Habiganj ...	Maulvi Dirajudin Ahmad ...	2	2	391	87	...	2 miles.	600	60	...	...	...	Abdul Khalique ...	Hard working.	

SYLHET.															
South Sylhet ...	Babu Surendra Nath Chaudhuri.	5	5	624	48	2	30·14 chains.	...	...	115	...	...	Hridoy Chandra Ghosh	Good.	
Sunamganj ...	„ Dinesh Chandra Purkayasthya.	3	3	159	...	...	...	...	...	...	...	...	Golok Chandra Kar ...	Satisfactory.	
GOALPARA.															
Eastern Duars ...	Babu Tara Chandra Doshmukhya.	37	19	548	15	5	2·48 miles.	173(*a*)	5	36	...	...	Ratiram Das ...	Fair	(*a*) Also checked an area of 6,025 plots.
													Jatraram Das ...		
	Maulvi Abdur Rasid ...		37		261	48	27·07 miles.	1,064(*a*)	15	163	...	...	Jadunath Das, offg. ...		
													Brajo Mohan Das, offg.		
													Kamal Nath Das ...		
													Haridas Das, offg. ...		
KAMRUP.															
Gauhati ...	Srijut Kamal Chandra Kagti from 27th June 1914 to 30th September 1914.	88	1	303	15	...	...	201	...	...	...	...	Kayaram Talukdar ...	Satisfactory.	
													Dhaniram Das ...		
Chhaigaon ...	Maulvi Nasibali Majumdar from 23rd June 1914 to 30th September 1914.	45	12	395	20	...	...	62	1	...	51	27	Sibram Das ...	Unsatisfactory.	
	Srijut Kamal Chandra Kagti from 30th October 1913 to 22nd June 1914.		43		220	...	13 miles.	3,362	91	126	997	265	Sarat Chandra Chaudhury.		
Kamalpur ...	Srijut Tarini Charan Chaudhury.	40	40	292	240	35	16·61 miles.	586	10	96	1,410	375	Jangannath Deka ...	Satisfactory.	
	Syed Sheikhul Moshaik Chiste from 12th August 1914 to 20th August 1914.		27		19	...	...	...	...	...	...	...	Pitambar Das. ...		
Rangiya ...	Srijut Hariprasad Das ...	46	46	324	260	31	10·16 miles.	1,250	45	104	498	277	Rupram Chaudhury ...	Good field officer.	
	Maulvi Nisibali Majumdar from 16th May 1914 to 16th June 1914.		13		31	1	19·10 chains.	193	...	22	260	33	Bhogirath Das ...	Honest worker.	
Nalbari ...	Syed Sheikhul Moshsik Chisti from 8th June 1914 to 11th August 1914.	59	20	346	12	...	...	...	...	...	...	...	Durgaram Datta ...	Experienced and capable men.	
	Babu Promode Chandra Sen Gupta.		59		335	15	7·45 miles.	7,154	227	613	3,611	1,034	Purnananda Chaudhury Dhaturam Tahsildar.	Fair. Requires constant looking after.	

APPENDIX B—*contd.*

Work statement of Sub-Deputy Collectors for the year ending 30th September 1914.

Name of Circle or Subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaries in the Circle.	Number of mandals or patwaries whose papers were checked.	Number of villages in the Circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Kamrup—*concld* ...	Babu Tara Charan Deshamukhya from 1st October 1913 to 8th December 1913.		...		...	...	Miles ...	...	...	...	...	2			
Barpeta ...	Srijut Surendra Nath Gohain from 9th February 1913 to 26th April 1914.	20	6	257	14	2	·81	63	2	2	15	6	Gangaram Das ...	Satisfactory.	
	Srijut Achyutananda Pathak from 27th April 1914 to 30th September 1914.		18		75	26	8·45	1,212	15	112	128	29			
	Babu Taracharan Deshamukhya from 1st October 1913 to 8th December 1913.		...		...	...	...	...	...	...	...	...			
	Srijut Surendra Nath Gohain from 9th February 1913 to 26th April 1914.		...		20	...	7·32	846	11	43	134	52	Sitaram Das ...	Satisfactory.	
Bojali ...	Srijut Achyutananda Pathak from 27th April 1914 to 1st May 1914, and from 6th July 1914 to 5th August 1914.	51	3	337	...	...	...	...	...	...	...	...	Moniram Das ...	Not bad.	
	Srijut Thageswar Barua from 2nd May 1914 to 5th July 1914, and 6th August 1914 to the end of the year.		39		87	34	14·42	870	18	128	835	253			

DARRANG.																		
Tezpur ...	Rai Saheb Betharam Sarma.	30		29	291	232	27	10·38	4,304	123	522	1,279	207	Fultungram Deka Offg.	Very satisfactory.			
	Srijut Umanath Gohain from 26th March 1914 to 30th September 1914.			20		...	3	2·60	...	...	66	70	11	Ratikanta Das ...	Satisfactory.			
Behali	Rai Saheb Betharam Sarma, from 15th November 1913 to 10th March 1914.	31		23	305	57	...	...	...	...	...	487	25	Sarbeswar Sarma ...	Satisfactory.			
	Srijut Bepin Chandra Bordalai.			31		180	9	4·12	1,662	20	117	582	83	Jogeswar Hazarika ...				
Kalaigaon ...	Srijut Tarini Charan Sarma from 1st October 1913 to 19th August 1914.	42		42	527	279	71	18·57	5,159	177	293	958	24	Nomal Chandra Saharia				
														Muhammad Ilias.				
Mangaldai ...	„ Uma Charan Gohain ...	43		43	321	239	36	13·39	2,823	231	237	1,268	215	Moniram Das ...	Satisfactory. The latter is rather slow in office work.			
														Jagat Chandra Saharia				
NOWGONG.																		
Silghat ...	„ Jagannath Bujar Barua	52		52	412	366	158	83·64	4,913	198	908	2,046	296	Moniram Das ...	Satisfacto ry.			
														Minaram Bhuyan ...	Not satisfactory.			
Dhing ...	„ Bholanath Kakati ...	50		50	398	348	133	47·5	4,278	47	359	808	55	Kinaram Sarma ...	Quite satisfactory.			
														Surat Chandra Bora ...	Sati sfactory.			
Roha	Maulvi Azimuddin Ahmad, from 1st October 1913 to 13th May 1914.	64		64	539	265	46	18·10	3,657	156	293	845	43	Bhagirath Laskar ...	Satisfactory.			
														Dinanath Sarma ...				
	Maulvi Muhammad Anwar Hosain.			35		50	15	6·80	525	8	141	35	36	Durgaram Das ...				
SIBSAGAR.																		
Jorhat ...	Srijut Khogeswar Barua from 1st October 1913 to 23rd April 1914.	40		40	352	168	52	15·63	4,168	423	221	563	251	Srinath Sarma ...	Satisfactory.			
	Babu Srish Kumar Sen from 24th April 1914 to 28th April 1914.			3		3	...	...	19	...	3	50	30	.....	.....			
	Babu Harkumar Das from 29th April 1914 to 30th September 1914.			40		193	44	10·37	1,150	92	423	588	192	Mohiram Das ...	Not very satisfactory.			

APPENDIX B—*concld.*

Work statement of Sub-Deputy Collectors for the year ending 30th September 1914.

Name of circle or subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaries in the circle.	Number of mandals or patwaries whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite stations mark inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SIBSAGAR—concld.							Miles.								
Moriani ...	Lato Gunabash Goswami, from 1st October 1913 to 24th June 1914.	37	32	364	220	12	4·15	518	205	301	1,746	323	Mohan Chandra Sarma	Satisfactory.	
	Babu Horkumar Das from 25th June 1914 to 30th September 1914.		37		28	...	...	46	...	24	30	61	Parsuram Barthakur...	Not satisfactory.	
Golaghat ...	Babu Krishna Behari Chaudhury.	40	40	328	274	47	22·14	5,181	116	465	2,530	310	Mohiram Barua, Bhakatram Das.	Fair.	
Kamargaon ...	Srijut Surendra Nath Gohain	17	14	193	39	1	2·35	83	...	58	17	56	Mohiram Dutta ...	Satisfactory.	
	Babu Krishna Behari Chaudury from 17th April 1914 to 7th May 1914.	...	...	...	...	...	...	...	...	...	...	...	.....	.....	
Sibsagar ...	Maulvi Mahibuddin Ahmed from 16th April 1914 to 30th September 1914.	38	33	349	212	22	5·68	1,586	218	266	3,022	252	Umeswar Sarma ...	Satisfactory.	
	Babu Srish Kumar Sen from 1st October 1913 to 15th April 1914.		38		129	5	2·32	820	40	359	1,267	235	Muktaram Dutta ... Tarun Chandra Sarma	Show considerable improvement.	
Nazira ...	Srijut Annada Charan Bhattacharjee.	37	37	383	220	...	...	1,052	17	126	2,016	242	Gobindanath Roy ... Amritram Chaudhury...	Good.	

LAKHIMPUR—															
Dibrugarh ...	Babu Guru Charan De Chaudhury from 1st October 1913 to 28th June 1914. Maulvi Fazlur Rahman from 29th June 1914 to 9th July 1914. Babu Tara Charan Desamakhya.	29	29	304	194	46	12·70	3,052	123	603	456	236	Jatiram Das ... Pabit Chandra Das ...	Did good work.
Tinsukia ...	Srijut Debananda Bharali ...	29	29	262	220	11	5·00	1,440	99	225	523	204	Lakheswar Das ...	Not working energatically this year.
													Sibaram Dihingia, offg.	Giving full satisfaction.
Tengakhat. ...	Maulvi Mahamed Fazlur Rahman.	34	34	564	314	20	6·81	2,290	134	285	1,361	129	Dinanath Gohain ...	Comparatively better than the other.
													Dimbeswar Gohain ...	Careless and delatory
Ranganadi ...	Maulvi Nural Hussen Hazarika from 1st October 1913 to 31st October 1913, and from 1st December 1913 to 24th March 1914. Maulvi Nasibali Majumdar, from 1st November 1913 to 1st December 1913. Srijut Rameswar Saikia from 25th March 1914 to 30th October 1914.	18	18	307	173	7	3·36	751	12	240	251	70	Mohiram Hazarika ...	Worked well.
Subansiri ...	Maulvi Nural Hussein Hazarika.	16	16	118	118	25	10·09	1,420	33	473	482	152	Sibnath Dekal ... Bansidhar Barua ...	Good.

APPENDIX C.

[" Permanently-settled" in this table includes "revenue free."]

District.	Classification of district area. (square miles).			Area for which a cadastral survey and record-of-rights are completed. (square miles).			Area for which a cadastral survey and record-of-rights were being prepared in 1913-14. (square miles).			Area outstanding (square miles).			Remarks.
	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cachar	3	3,766	3,769	3	1,062	1,065	...	...	...	3	2,704	2,707	
Sylhet	3,825	1,555	5,380	...	841	841	...	7	7	3,825	707	4,532	
Goalpara	2,528	1,433	3,961	...	478	478	...	...	...	2,528	955	3,483	
Kamrup	53	3,805	3,858	53	2,173	2,226	...	...	...	53	1,632	1,685	
Darrang	8	3,398	3,406	8	1,220	1,228	...	6	6	8	2,172	2,180	
Nowgong	4	3,800	3,804	4	1,127	1,131	...	...	...	4	2,673	2,677	
Sibsagar	62	4,934	4,996	62	1,819	1,881	...	...	...	62	3,115	3,115	
Lakhimpur	3	4,204	4,207	3	732	735	...	...	...	3	3,472	3,475	
Garo Hills	...	3,140	3,140	...	54	54	...	...	...	...	3,086	3,086	
Total	6,486	30,035	36,521	133	9,506	9,639	...	13	13	6,486	20,516	26,940	

APPENDIX D.

Progress of " Extension " Surveys for the year ending 30th September 1914.

Name of district.	Total area of district (square miles).	Area surveyed by professional party (square miles).	Area surveyed in extension by village recorders.			Total area cadastrally surveyed (square miles).	Remarks.
			Previously (square miles).	During the year under report (square miles).	Total (square miles).		
1	2	3	4	5	6	7	8
Cachar ...	3,769	1,034	31	Nil.	31	1,065	
Sylhet ...	5,380	545	284	12	296	841	
Goalpara ...	3,961	...	377	101	478	478	
Kamrup ...	3,858	1,966	260	...	260	2,226	
Darrang ...	3,406	857	365	6	371	1,228	
Nowgong ...	3,804	1,012	119	Nil.	119	1,131	
Sibsagar ...	4,996	1,521	346	14	360	1,881	
Lakhimpur ...	4,207	269	466	...	466	735	
Garo Hills (plains portion).	3,140	...	50	4	54	54	
Total ...	36,521	7,204	2,298	137	2,435	9,639	

APPENDIX E.

Name of district.	Classification of *pattas*.	Total number of *pattas*.	Number of (*pattas* or portion of *pattas*) transfers.		Number of (*pattas* or portions of *pattas*) transfers by—				Area in acres transferred by—				Remarks.
			By summary procedure.	By regular procedure.	Sale or usufructuary mortgage. Under decree by civil court.	Sale or usufructuary mortgage. By private gift or contract.	Succession.	Other causes.	Sale of usufructuary mortgage. Under decree of civil court.	Sale of usufructuary mortgage. By private gift or contract.	Succession.	Other causes.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cachar ...	Periodic khiraj.	70,433	92,873	609	60	35,770	39,807	17,058	(a)	39	50	(a)	(a) Figures not available.
Sylhet ...		52,421	12,753	383	545	5,935	6,222	418	1,309	3,306·34	7,855·74	4,569·31	
Goalpara ...		3,553	65	3	...	23	27	18	...	98·03	1,88·04	29·07	
Kamrup ...		1,46,469	8,038	1,149	118	2,937	5,082	1,049	604·67	5,323·12	13,421·87	1,605·44	
Darrang ...		99,823	4,565	528	20	2,036	2,669	368	42·57	3,775·10	6,842·85	445·26	
Nowgong ...		61,310	3,460	239	39	1,207	2,245	208	71·13	1,829·02	4,453·59	292·91	
Sibsagar ...		161,623	8,000	1,671	53	3,116	5,855	647	130·74	6,029·42	13,760·02	998·78	
Lakhimpur ...		92,258	2,102	648	9	1,631	915	195	19	3,941	80·48	236	
Garo Hills. ...		...	...	...	...	...	...	...	...	...	...	...	
Total ...		657,889	131,635	5,434	844	52,655	62,822	19,961	2,177·11	27,341·03	49,620·11	8,176·77	
Cachar ...	Lakhiraj.	...	...	...	...	...	...	...	...	...	...	...	
Sylhet ...		...	...	...	...	...	...	...	...	...	...	...	
Goalpara ...		...	...	...	...	...	...	...	...	...	...	...	
Kamrup ...		37	...	10	8	...	2	...	...	...	50·07	...	
Darrang ...		...	...	...	...	...	...	...	...	...	...	...	
Nowgong ...		4	...	...	...	...	...	...	...	...	...	...	
Sibsagar ...		81	...	...	...	...	...	...	...	...	...	...	
Lakhimpur ...		...	...	...	...	...	...	...	...	...	...	...	
Garo Hills ...		...	...	...	...	...	...	...	...	...	...	...	
Total ...		122	...	10	8	...	2	...	...	...	50·07	...	
Cachar ...	Nisf khiraj.	...	...	...	...	...	...	...	...	...	...	...	
Sylhet ...		...	...	...	...	...	...	...	...	...	...	...	
Goalpara ...		...	...	...	...	...	...	...	...	...	...	...	
Kamrup ...		2,952	232	145	28	121	196	32	325·26	1,230·97	3,599·62	1,379·74	
Darrang ...		26	...	26	...	18	8	...	...	6,204·81	1,736·50	...	
Nowgong ...		24	1	1	...	2	...	...	...	220·08	...	...	
Sibsagar ...		474	14	2	...	2	14	...	...	12·56	53·6	...	
Lakhimpur ...		...	...	...	...	...	...	...	...	...	...	...	
Garo Hills ...		...	...	...	...	...	...	...	...	...	...	...	
Total ...		3,450	247	148	28	125	110	32	325·26	1,463·61	3,652·68	1,379·74	

APPENDIX F.

Condition of survey marks during the year ending 30th September 1914.

No.	Classification.	Total number of marks	Total number found in good order.	Number found not in good order.		Total of columns 4 and 5 in good order on 1st October 1913.	Number lost or left unvisited.
				Repaired.	Not repaired.		
1	2	3	4	5	6	7	8
1	Theodolite stations—						
	(i) Stone prisms	32,797	26,552	1,228	2,088	27,781	2,929
	(ii) Square stone or blocks ...	23,475	18,825	127	240	18,952	4,283
	(iii) Other marks	76,535	43,430	16,065	8,503	59,495	8,537
2	Boundary marks of districts, etc., (other than theodolite stations.)						
	(i) Stone prisms	1,026	468	...	...	468	558
	(ii) Square stone or blocks ...	4,802	4,009	23	78	4,032	692
	(iii) Other marks	2,862	1,466	210	121	1,676	1,065
3	Boundary marks of private property (other than theodolite stations).						
	(i) Stone prisms	5,802	5,419	157	72	5,576	154
	(ii) Square stone or blocks ...	15,033	13,463	175	431	13,638	964
	(iii) Other marks	6,811	5,819	341	335	6,160	316
4	Kanungo's mounds	14,685	6,137	2,034	2,044	8,171	4,470
	Total	1,86,693	1,25,588	20,360	13,912	1,45,949	23,968

Resolution on the Survey and Settlement Report, Assam, for the year ending the 30th September 1914.

Extract from the Proceedings of the Chief Commissioner of Assam in the Revenue Department, No. 662R., dated the 9th February 1915.

READ—

The Survey and Settlement Report, Assam, for the year ending the 30th September 1914.

RESOLUTION.

THE report of the Director of Surveys was received after the due date and exceeds the prescribed length. The Chief Commissioner recognises that the circumstances under which it was prepared were most exceptional and that the delay was unavoidable. He agrees with the Director that the later chapters of the report record details which, if required at all, might well have been relegated to tables, and in future the orders restricting the length of the report must be strictly observed. Major Hirst explains that the experiment of appointing an Assistant Director to Shillong has not been entirely successful. The future management of the Department is now under the consideration of the Chief Commissioner. He is unable to accept the Director's view that work can be efficiently or conveniently controlled by an officer who does not visit Shillong at all.

2. Chapter II of the report contains an account of useful work carried out by the Assam Traverse Party. Unfortunately in certain important boundary cases sufficient care was not taken to ascertain the views of the other party as to the suitability of the line which it was proposed to demarcate. Steps have been taken to prevent the recurrence of such mistakes.

3. The Chief Commissioner is glad to learn that there has been an increase in the output of the Shillong Drawing Office. The preparation of good school maps is now in progress, but the work of reproduction is expected to continue for some years. The compilation of thana maps will it is hoped be pressed on with some vigour. Little has as yet been done for the important district of Sylhet.

4. The new survey school which was opened near Gauhati during the year should do much to improve the technical efficiency of the field establishment of the province. The Principal of the school seems to have shewn enterprise and resource in meeting the difficulties due to the opening of the school before the permanent buildings had been erected.

5. Considerable progress has been made with the important settlement operations which have been undertaken in the Surma Valley. In Cachar the work was under the control of Mr. W. L. Scott, I.C.S., assisted by three Assistant Settlement Officers. The field work included in the first year's programme was successfully completed, but the recess office work proved too heavy for three assistants and a fourth was accordingly appointed. The Chief Commissioner is glad to learn that in the majority of villages only map correction was required. But the very large number of mutation cases thrown upon the settlement staff shows that the record had not been kept up to date. At the close of the year preliminary arrangements were made for the settlement of the Jaintia Parganas and for an experimental survey and preparation of a record-of-rights in certain permanently-settled parganas in Sylhet. In both cases the work started on the 1st October 1914. Mr. W. L. Scott, I.C.S., is in charge of the Jaintia Parganas in addition to his duties as Settlement Officer, Cachar, while Mr. C. Gimson, I.C.S., has been appointed Settlement Officer for the permanently-settled area. Each is assisted by two Assistant Settlement Officers. In the Resolution of last year the Chief Commissioner referred to the importance of the operations in the permanently-settled area in Sylhet, and the results of the work now in progress in the experimental area will be watched with the closest interest.

6. The resettlement of the Nankar and certain other temporarily-settled estates in Sylhet was completed during the year and the final report has since been received by the Local Administration. These estates have no permanent boundary marks and are scattered over the permanently-settled portion of the district so that their resettlement proved a work of special difficulty. The Chief Commissioner fully endorses the Director of Land Records' commendation of Babu Tarani Charan Nandi, the Extra Assistant Commissioner, the officer who carried out the work.

7. The resettlement of the Dibrugarh town was completed and the final report was submitted to and approved by Government during the year. The result was an increase of Rs. 11,342 or 120 per cent. in the assessment, the largest increase being in the case of trade sites. Large though this increase was, the revenue assessed represents but a small proportion of the rental value of the land Work was also begun in the Guma Duar in Goalpara and the terms on which settlement of the Bijni and Sidli Duars would be made with the Rani of Bijni and the Raja of Sidli were definitely determined. The year was in fact a busy one for the Settlement Department.

8. The Land Records Assistant to the Director of Land Records reports that except in a few circles there has been no very marked improvement in the condition of the record. It is only by constant supervision that the record can be kept up to date, and once this supervision is relaxed mutation work is bound to fall into arrears. Excessive transfers amongst the Sub-Deputy Collectors in charge of circles was a serious obstacle to efficiency. There are at present so many officers under training that often it is not easy to find men qualified to hold charge of circles. Sir Archdale Earle hopes that when once this difficulty has been overcome, Commissioners will bear in mind the necessity of keeping an officer in charge of the same area for a period of at least three years. The Chief Commissioner is gratified to hear that there has been a marked increase in the amount of personal attention paid by District Officers to the checking of the record. No less than five out of six Deputy Commissioners in the Assam Valley are selected for special mention, and it is said that Lieutenant-Colonel Playfair ran more than 10 miles of check lines. It is very unsatisfactory that Subdivisional Officers should have fallen behind their District Officers in this matter, and it is surprising, after the explicit orders issued, that the Subdivisional Officer of Karimganj entirely failed to make any inspections. Subdivisional Officers have more leisure for work of this nature, and District Officers must see that their subordinates do what is expected of them. The Chief Commissioner cannot understand why the total number of survey marks was more than 6,000 less than in the preceding year, and he looks to the Director to account for this remarkable difference. The number of marks found in bad order but not repaired was unduly large. It is useless to discover a defect by inspection if it is not made good.

9. The year was generally one of progress. The position of supervisor kanungos was improved, steps were taken to ensure that periodic leases were no longer issued even for small plots of land until their position had been clearly indicated on the map, and the settlement rules were revised and brought up to date.

10. The Chief Commissioner is indebted to Mr. McSwiney and Mr. Edwards for their careful administration of the Department. The names of the Sub-Deputy Collectors who have been well reported on have been noted in the Appointment Department.

ORDER.—Ordered that this Resolution and the Reports of the Director of Surveys and the Director Department of Land Records, be published in the *Assam Gazette*, and that a copy of it, with a copy of each of the two reports, be submitted to the Government of India.

By order of the Chief Commissioner of Assam,

B. C. ALLEN,

Chief Secretary to the Chief Commissioner of Assam.

REPORT

ON THE

SURVEY AND SETTLEMENT OPERATIONS

IN

ASSAM

FOR THE

Year ending 30th September 1915.

SHILLONG:
PRINTED AT THE ASSAM SECRETARIAT PRINTING OFFICE.

1916.

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(11) Mr. J. Fisher Unwin, Limited : Adelphie Terrace, London, W. C.

Agents on the Continent of Europe.

(1) M. Ernest Leroux, 28, Rue Bonaparte, Paris.

(2) Martinus Nijhoff, The Hague.

(3) Messrs. Oliver and Boyd, Tweeddale Court, Edinburgh.

(4) Messrs. E. Ponsonby, Ltd., 116, Grafton Street, Dublin.

SHILLONG :

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REPORT

ON THE

SURVEY OPERATIONS IN ASSAM

FOR THE

Year ending 30th September 1915.

No. 4942, dated the 26th November 1915.

From—Major F. C. HIRST, I.A., Director of Surveys, Bengal and Assam,

To—The Chief Secretary to the Hon'ble the Chief Commissioner of Assam.

I have the honour to forward my Annual Report upon the work of my Department in Assam for the year ending 30th September 1915. The great War and other matters have caused considerable disruption in the continuity of administration.

The changes referred to above are briefly noted below :—

Sixth October 1914 *to* 5*th November* 1914.—Captain A. H. Gwyn in charge as I was compelled to take privilege leave.

Sixth November 1914 *to* 10*th December* 1914.—Captain A. H. Gwyn in charge as I was on special duty in the Public Works Department.

Eleventh December 1914 *to* 30*th April* 1915.—I was in charge but continued on special duty. Mr. J. C. Nixon, I.C.S., carried out the bulk of my ordinary duties. Since 1st May I have been in charge.

Similarly the duties of Assistant Director of Surveys in Shillong were divided. Captain C. M. Thompson had charge until 6th January 1915, when Mr. T. Shaw took over from him.

Captain A. H. Gwyn reverted to Military employ on 11th December 1914, and Captain C. M. Thompson on 7th January 1915, Mr. H. F. Barkeley, Extra Assistant Commissioner, on the Assam Survey Cadre, obtained a Commission in the Indian Army Reserve of Officers and left the Department on 22nd June 1915.

To these constant changes may be added the fact that I have been in consistently bad health for two years, and have been compelled to work very short hours and irregularly.

In the circumstances I hope that the work of the Department will not be too severely criticized.

2. The general outturn for the year may be considered normal when compared with that of the two previous years.

3. In anticipation of the proposed divorce between Bengal and Assam local Surveys I moved all work done in the Shillong Drawing Office (except in the Reproduction Section) to Calcutta at the end of 1914.

The Bengal Reproduction Section is in process of movement to Bengal now, and the movement should be complete when Government receives this report.

4. It has not been decided who will control Assam Surveys. But in anticipation of the split much discussion and correspondence has occurred, both in the Secretariat and my offices.

The question was discussed in detail by the Chief Secretary and me at Dhubri early in August 1915.

5. The racking of the maps of the Goalpara Collectorate has been completed, with the exception of a few copies of maps still under compilation in the Shillong Drawing Office.

6. My history of the Goalpara Surveys is s ill incomplete. I hope to finish it before I go home in December next.

7. The question of traversing and re-cadastrally surveying the extensions of cultivation in the Province (see paragraph 10 of my last report) has again been discussed. It transpired that the failure in Kamrup was due to mandals not being able to obtain labour, as was the case in Goalpara. If I had supplied the labour the operation would have been unnecessarily expensive.

It has now been decided that, with the exception of the Goalpara district, all arrears traversing will be done by the Survey Department, and after that mandals will traverse extensions as they occur, computations being done in the Survey Department.

8. Mr. T. Shaw has been employed mainly upon writing the History of the Sylhet Surveys and I understand that he will complete the two remaining volumes of the series to complete the Province in due course.

9. The buildings of the Survey School are still incomplete. The delay that has occurred in providing them has caused great discomfort, and has tended seriously to hamper progress.

10. During the year I was employed for a time, in company with Messrs. Heaton and Henderson of the Indian Educational Service, in compiling a report upon Survey Education in Bengal. The report is printed, but has not yet been considered by the Bengal Government. I have sent advanced copies to the Assam Administration, as these were asked for. I was also engaged occasionally on arbitration work connected with the Mechpara-Chapar boundary in district Goalpara.

CHAPTER II.

Report on the work of the Assam Traverse Party.

11. The list at the end of this chapter gives brief details of the work done by this party. Sufficient space is not allowed by Government orders, for details to be given in full of each operation. But Mr. Judd's detailed reports are filed in his office and can be referred to at any time.

12. During the year there has been a good deal of discussion regarding the correct method of relaying boundaries in certain cases and since this is my last report for the Assam Government I may perhaps take the opportunity of referring to a very important point.

Maps which purport to show boundaries of fact at a certain date do not always show those boundaries correctly; the question arises in a case in which two parties agree to abide by a certain map, as to whether their agreement rigidly refers to the map as a map, or whether in relaying it the intention of the original surveyor may be considered.

My experience is that the best course is to first survey a boundary according to possession and then compare it with the old map. But unfortunately this often entails lengthening out the operations, and so increasing cost and making it prohibitive.

The case of lost boundaries in Bengal seldom has the complications that occur in Assam, where often the old boundary is absolutely lost for many miles and possession gives no useful clue. Each case must be taken on its merits, and it is very doubtful if any two surveyors would relay from an old and distorted map, in exactly the same way, except in areas in which possession has not departed seriously from the old boundary.

LIST OF OPERATIONS.

Serial No.	District.	Nature of work with brief description.	Present state of completions.	For Government or Private Agency.
1	2	3	4	5
1	Goalpara and Kamrup.	Permanent demarcation of district boundary (Pargana Khuntaghat).	Completed	Half shares.
2	Goalpara ...	Demarcation of portion of boundary between Sidli and Chirang Duars.	Will be completed next year ...	Government.
3	Ditto ...	Khuntaghat-Chapar delimitation previous to arbitration.	Completed	Private.

LIST OF OPERATIONS—*contd.*

Serial No.	District.	Nature of work with brief description.	Present state of completions.	For Government or Private Agency.
1	2	3	4	5
4	Goalpara ...	Pargana-Duars boundary relaying.	Probably two more seasons work required.	Partly Government but mainly private.
5	Goalpara-Garo Hills	Re-demarcation of Bose's Survey	Half completed	Government.
6	Goalpara ...	Survey of bed of Brahmaputra river off Dhubri Rock.	Completed but will recur annually for some years.	Government (Public Works Department).
7	Ditto ...	Census of great Trigonometrical marks (Triangulation and Levelling).	Incomplete, work stopped by Government Order.	Government of India.
8	Goalpara and Bhutan	Relaying Goalpara-Bhutan boundary.	Incomplete, pending final Government Orders.	Ditto.
9	Kamrup ...	Relaying pillar 81 of the Bhutan-Kamrup boundary.	Will be completed next year, the staff struck work and caused postponement.	Government (Political).
10	Ditto ...	Extension traverse work for Cadastral Survey.	To be completed next year ...	Government (Revenue).
11	Ditto ...	Traverse and detail survey of Mr. Lawrie's grants.	Completed, unless a permanent demarcation of the boundary is asked for later.	Private.
12	Ditto ...	Traverse and detail survey of Messrs. Birkmyre's grant for jute.	Completed	Ditto.
13	Ditto ...	Relaying lost traverse stations in 4 villages (Nalbari Circle).	Ditto	Government (Revenue).
14	Ditto ...	Check of extension traverse work done last year.	Ditto	Ditto.
15	Cachar ...	Traverse Survey of Amarnagar tea grant.	Ditto	Ditto.
16	Ditto ...	Traverse Survey of Sultanicherra tea grant.	Ditto	Ditto.
17	Ditto ...	Traverse Survey of extension cultivation for the Settlement Officer.	Ditto	Ditto.
18	Ditto ...	Boundary Survey of Forest block south of Paloi tea garden.	Ditto	Government (Forests).
19	Sylhet ...	Disputed boundary in Ita Hills. Traverse and comparative map for Deputy Commissioner.	Ditto	Government (Revenue).
20	Ditto ...	Demarcation of boundary between Parganas Langla and Patharia.	To be completed next year ...	Ditto.
21	Ditto ...	Demarcation of boundary between Patharia and Patabgarh.	Ditto ditto ...	Ditto.
22	Ditto ...	Erection of instrument checking standards at Karimganj, Habiganj, Maulvi Bazar, Sunamganj and Sylhet.	Ditto ditto ...	Ditto.
23	Ditto ...	Survey of boundaries of village Marugaon.	Completed, but work not checked.	Ditto.
24	Ditto ...	Relaying boundaries of Thak 5835 (Barthal) and Thak 5836 (Mehakhal.)	Completed	Ditto.
25	Ditto ...	Relaying Sylhet and Khasi and Jaintia Hills boundary west of Tharia.	Incomplete. Government is considering what further action is to be taken.	Government (Revenue and Political).
26	Ditto ...	Census of great Trigonometrical marks (Triangulation and Levelling).	Completed	Government of India.

LIST OF OPERATIONS—*concld.*

Serial No.	District.	Nature of work with brief description.	Present state of completions.	For Government or Private Agency.
1	2	3	4	5
27	Sylhet ...	Checking of traverse of last year in Parganas Renga, Baraya and Dakhinkach.	Completed	Government (Revenue).
28	Khasi and Jaintia Hills.	Demarcation of the Shella-Maolong boundary.	Temporary demarcation completed. Permanent demarcation to be done next year.	Private.
29	Lakhimpur ...	Traverse of three lost grants ...	Two completed. Deputy Commissioner requested that the third be held over till next year.	Government (Revenue).
30	Darrang ...	Relaying Traverse Stations in Tezpur Town.	Completed	Ditto.
31	Sibsagar ...	Preparation of a comparative map showing overlap between 30 years' grants Nos. 120-349 and 161-451.	Ditto	Ditto.
32	Various districts ...	Checking of new grant maps made by Government approved Surveyor.	No arrears	Government (Revenue) but paid for by deposits from private people.
33	Khasi and Jaintia Hills.	Examination of Forest Students in surveying (by Captain Thompson).	Completed	Government (Forests).

CHAPTER III.

SHILLONG DRAWING OFFICE.

General remarks.

13. Mr. A. B. Smart, Deputy Superintendent held charge from the 14th November 1914 until the end of the year.

Previously Mr. C. G. Lee and Captain C. M. Thompson, I.A., held charge for short periods.

Reproduction Section.

14. The total output for Assam by the joint section with Bengal, for the whole Survey year, was 37,766 pulls, as against 64,471 last year. Details are given in the table below :—

Cadastral Maps.

District.	No. of sheets.	No. of copies.
Cachar	2	50
Darrang	19	476
Garo Hills	116	1,740
Goalpara	152	1,520
Kamrup	153	4,590
Nowgong	67	1,350
Sylhet	236	2,190
	745	11,916
Miscellaneous.		
Various districts, etc.	358	25,850
Total ...	1,103	37,766

This is a smaller outturn than last year and is due to small demand. The demand for Assam is naturally a fluctuating quantity.

15. The cost of extra departmental work this year has amounted to Rs 1,474 as against Rs. 2,989-9-9 recovered by book debit last year.

School Maps.

16. Great progress has been made with these, and it is hoped that with the exception of the Provincial Map (1″=8 miles) all the district maps at present required by the Director of Public Instruction will be completed in the present financial year.

Standardized Maps.

17. No work except the jurisdiction mujmilis has yet been attempted in this branch in the absence of orders from Government. The need must be great on the part of District Officers for standardized maps. The work, when taken up, will be done by the temporary draughtsmen staff.

Copies of maps and plans.

18. There was practically no copying work for the public, but progress was made with the maps that are being prepared to complete the records of the Goalpara Revenue Record Room.

Only 5 maps remain to be prepared. Of these, two are in hand. In addition there are two maps, of which it is doubtful if originals exist.

Jurisdiction maps and mujmilis.

19. Jurisdiction mujmilis had been published to date for the following thanas :—

District.	No. of Units.
Sylhet	6
Cachar	1
Total ...	7

Much of the material for completing Cachar and Sylhet is merely awaiting reproduction. It is hoped that Darrang, Kamrup and Lakhimpur will be finished this financial year, but Nowgong and Sibsagar will probably go on into the next financial year. In paragraph 3 of the Chief Commissioner's resolution upon last year's report the backwardness of the Sylhet maps is commented upon. As a matter of fact this district has had thana maps of the old style for several years, but these show old topography. Mr. Smart reports that he has had difficulty in revising the topography in the new maps because the latest topographical maps do not show village boundaries.

Record section.

20. During the year 821 original Cadastral maps were racked in the record room, which now contains 13,611 maps.

CHAPTER IV.

Assam Land Surveying School.

21. This school continued exactly as last year, but it cannot be expected to give the best results until proper buildings are provided. The inconvenience of temporary buildings referred to in my last report is still keenly felt, and hampered Maulvi Talmizur Rahman, who has been in charge throughout the year under report.

CHAPTER V.

Service of Officers.

22. *Captain A. H. Gwyn, I.A., First Assistant Director of Surveys,* acted for me until he went on military service. I was well satisfied with his work.

Captain C. M. Thompson, I.A., Second Assistant Director of Surveys.—The services of this officer are known to the Assam Administration and so I need not commnet upon them here.

Mr. J. C. Nixon, I.C.S.—This officer has done a great deal of admirable work in both provinces. He has identified himself with the Department; he has much tact, and he is a hard worker. I cannot speak too highly regarding the help and royal assistance that he has so consistently given me.

Mr. T. Shaw, who took over Captain Thompson's duties, has, as usual, worked hard and well. His services to Assam have been of the utmost value.

Mr. A. B. Smart, Deputy Superintendent, has got through a difficult year of change and uncertainty with much credit.

Mr. O. E. C. Judd has shown his customary zeal in his Party. The value of his technical work is realized with difficulty by those who are not closely conversant with it. He has carried out his work to my utmost satisfaction.

Maulvi Talmizur Rahman has continued to do well in the Survey School.

Pandit Damodar Rao, my Personal Assistant, with Mr. Nixon, has shared the brunt of the work. He will shortly sever connection with Assam, and I beg specially to bring to the notice of the Chief Commissioner the excellent work he has done for Assam since 1909.

F. C. HIRST, *Major, I.A.*,

Director of Surveys, Bengal and Assam.

No. 122-6516.

FROM

A. R. EDWARDS, ESQ., I.C.S.,
DIRECTOR OF LAND RECORDS AND AGRICULTURE, ASSAM,

To

THE CHIEF SECRETARY TO THE CHIEF COMMISSIONER
OF ASSAM.

Shillong, the 14th December 1915.

SIR,

I HAVE the honour to submit a report upon the work of the Department of Land Records and Settlements in Assam during the year ending 30th September 1915.

I have the honour to be,

SIR,

Your most obedient Servant,

A. R. EDWARDS,
Director of Land Records and Agriculture, Assam.

REPORT

ON THE

DEPARTMENT OF LAND RECORDS IN ASSAM

FOR THE YEAR ENDING

30th September 1915.

PART I.

Goalpara.

1. In the Guma Duar of Goalpara the survey and classification of the land were completed according to the scheme sanctioned in order No. 3992, dated the 7th October 1914. The survey was begun by the middle of November 1914; both survey and record-writing were finished in January 1915. February and March were spent in inking up the map, calculating the area and attesting the record. The rate report was submitted in the beginning of April and the proposed rates were sanctioned under Government order No. 3014R., dated the 19th July 1915. Soil units were calculated in the meantime, and on receipt of the Government order calculation and attestation of revenue were finished. The sanctioned rates were published on the 20th July and some objections to the rates filed by the settlement-holders were disposed of in September 1915. Settlement statements were then prepared and the operations brought to a close by the distribution of pattas. Much credit is due to Maulvi Abdur Rasid, Sub-Deputy Collector, who carefully carried out this resettlement in addition to ordinary land records and other miscellaneous work. The settlement takes effect from the 1st April 1915 and will be in force for a term of 20 years. It has resulted in an increase of 380 acres or over 2 per cent. in area and Rs. 6,217 or 27·4 per cent. in annual revenue.

As, however, enhancement of revenue in two villages is progressive, there will be a further small increase at the end of five years.

Cachar.

2. Resettlement operations in Cachar and the Jaintia parganas of Sylhet continued to be under the supervision of Mr. W. L. Scott, I.C.S., Babu Debendra Kumar Mukherjee, Babu Mohendra Kumar Dam and Babu Kamini Kumar Dutta remained as Assistant Settlement Officers in the district of Cachar. A fourth Assistant Settlement Officer, in the person of Maulvi Muhammad Ali, Sub-Deputy Collector, joined on the 19th October 1914. In last year's annual report it was observed that the programme was heavy, even for 4 Assistant Settlement Officers. The work of attestation was made somewhat lighter by the transfer of one pargana from the area under attestation to another group and by the omission from the programme of certain small untraversed and newly-traversed villages. In spite of this, however, a fifth officer, namely, Maulvi Alauddin Chowdhury had to be deputed to Silchar for 2 months during the early part of the rains.

It was also found necessary to strengthen the subordinate staff during the field season. This was on account of the difficulty experienced in enquiring into and reporting on the mass of objections and disputes raised at attestation and the time taken in the subsequent correction of the records.

The programme for the year comprised the completion of map revision, record-writing, area recalculation and preparation of draft *jamabandis* for three groups (Chatla, Banraj and Vernerpur) and the record attestation of three groups (Katigora, Silchar and Hailakandi).

Map revision or resurvey remained to be done in only 174 villages and was completed. The attestation programme was not quite finished as the work was heavier than was expected.

The method of map revision adopted was the same as that explained in last year's report. This year's work, however, embraced a larger number of villages in which complete resurvey from new traverse plots was necessary. The revision of some of the villages of the Chatla Haor pargana presented very grave difficulties owing to cadastral survey there having been very badly done and to the very great extension of cultivation in the valleys and among the *tilas*.

Mutation work was less heavy than in last year. The number of mutations passed was 10,655 in the Sadar and 1,068 in the Hailakandi subdivision.

The most important portion of this year's work consisted of the attestation of three groups, comprising 670 villages. This excludes 51 sheets of tea-garden grants where no resettlement work is required. The programme as curtailed was completed with the exception of 7 villages in Hailakandi. The progress of the work was much hampered by the high floods of June and July and by such items of miscellaneous work not properly forming a part of land revenue resettlement as enquiries into the condition of second-class fisheries and about land suitable for reservation for grazing grounds.

Three garden grants traversed by the professional party were surveyed in detail but the papers could not be completed in time for attestation.

Heavy arrears of attestation correction brought in by Supervisor Kanungos from the field, arrears of office work in connection with revision of maps and the dislocation of work caused by the floods made it impossible to submit any group reports. It is estimated that the temporary closing of the office on account of the unprecedented floods, coupled with the fact that a larger part of the staff was engaged in special duties in connection with relief and remission of revenue meant a loss of some six weeks' work. The Settlement Officer, however, hopes to submit the Katigora Group report by Christmas.

The maps of one pargana have been sent to the Drawing office for reproduction and have been favourably reported on.

The programme for next year consists of—

(*a*). The record attestation of the three remaining groups—Chatla, Banraj and Vernerpur—and, if possible, the submission of the group reports and completion of the final maps, *dag chithas* and *jamabandis*.

(*b*) The preparation of assessment statements, submission of group reports and completion of records of the Katigora, Silchar and Hailakandi groups. It is possible but not probable, that the revenue attestation of the Katigora group may be carried out during the year.

While referring to the loyal support given to him by all his Assistants the Settlement Officer makes special mention of the services rendered by Babu Debendra Kumar Mukherjee and Maulvi Muhammad Ali.

Sylhet—(1) Jaintia Pargana.

3. As already stated Mr. Scott was in charge of the operations throughout the year. Babu Surendra Nath Dutta, Sub-Deputy Collector, joined as Assistant Settlement Officer in charge of the Kanairghat tahsil area on the 9th October 1914, and Babu Girish Chandra Nandi, Extra Assistant Commissioner, as Assistant Settlement Officer in charge of the Gowainghat tahsil area on the 21st October 1914. These officers have remained in charge since.

The parganas have been divided into three settlement groups, namely, (1) The south-eastern or Kanairghat group ; (2) the Central or Jaintiapur group, and (3) the north-western or Gowainghat group. The programme for the year was to complete map revision, record correction, classification, area calculation and preparation of the draft *jamabandi* and kacha patta for the whole area. The field work was successfully carried out, but the progress of office work, as in the case of Cachar, proved less satisfactory. The total number of sheets for map revision was 719 and these were completed. The number of mutations recorded in Gowainghat Tahsil area was 92,093 and in Kanairghat 1,20,517, though the old record was very fairly up to date. The heavy mutation work is the result of the effort made to split up the *ijmali* estates by recording separate fields in the names of the actual cultivators and leaving only the uncultivated land *ijmali*. To cope with the volume of mutation work, the services of the Sub-Deputy Collectors deputed to settlement training were, as far as practicable, utilized. But notwithstanding this at the end of the training period the three Sub-Deputy Collectors Babu Kumud Chandra Datta, Maulvi Muhammad Muhibullah and Maulvi Saiyid Seikhul Moshaik Chisti had, with the sanction of the Local Administration, to be deputed to the work for a period of 2 months to complete the great mass of mutations that still remained outstanding.

Mr. Scott deserves great credit for the good work done by him both here and in Silchar, in somewhat adverse circumstances. Both the Assistant Settlement Officers have worked hard and satisfactorily.

With the help of two additional Assistant Settlement Officers and ten more Supervisor Kanungos, the Settlement Officer hopes to be able, during the current year, to complete record attestation, prepare assessment statements and submit group reports for the whole area.

(ii) Dassana area.

The Dassana area consists of three parganas, Renga, Dakhinkach and Baraya in the Sadar subdivision of Sylhet. They cover about 95 square miles, the greater part of which is permanently settled. The question of the survey and preparation of a record-of-rights for the whole of the district of Sylhet has been frequently discussed, this typical area has been taken up experimentally; it is hoped that the work there will give an idea of the difficulties likely to be encountered and the cost to be incurred, should it be decided to take up the whole district. Mr. C. Gimson, I.C.S., who joined as Settlement Officer in July 1914, was in charge during the whole of the year. The area was divided into two circles, *viz.*, the northern and the southern. The former was in charge of the senior Assistant Settlement Officer Babu Tarini Charan Nandi; it contained Dakhinkach and the northern part of Baraya with an area of 43 square miles. The other circle which was in charge of the 2nd Assistant Settlement Officer Maulvi Lutfar Rahman included the remaining portion of Baraya and the whole of Renga, its area being 52 square miles. The area surveyed by the Traverse Party was about 95 square miles. Cadastral survey of 88 square miles was completed during the field season. Of the 7 square miles omitted the greater part consisted of large blocks of temporarily-settled lands. *Khanapuri* (preliminary record-writing) of the area cadastrally surveyed was completed with the exception of one sheet which could not be done owing to high floods. The work appears to have been carefully checked. Altogether 1,272 disputes came to light, while 1,262 were decided; it is reported that most of these were of a trivial nature.

Recess work began in April. Its main items consisted of a boundary comparison of all sheets, area calculation of each plot with a check of the totals, the entry of these areas into the *khasras* and *khatians* and the copying of *khatians* to be distributed before attestation to the persons interested. The distribution of these began before the year ended. The preparation of crop statistics and comparison of the new maps with the *thak* was going on at the close of the year. The rules for the recovery of cost of survey and demarcation as well as those containing details for entry in the record were, after publication in the Gazette, finally approved.

Settlement of this kind being entirely new to Assam, a large number of points have come up for discussion and decision, while it has been necessary to frame for the guidance of the staff executive instructions in the various processes to be followed.

Mr. Gimson deserves credit for his excellent work. Most of the staff are reported to have done well. The Settlement Officer specially mentioned the name of Maulvi Lutfar Rahman, Assistant Settlement Officer, who appears to have done exceptionally good work both in the field and in office.

PART II.—Land Records.

Mandals and Patwaris.

4. In paragraph 5 of last year's report it was indicated that a large increase in cultivation in some lots and the extension of cadastral survey in Goalpara had rendered it necessary to propose the creation of some additional lots of mandals in the Assam Valley. Accordingly 9 new posts were sanctioned during the year, *viz.*, 4 in Goalpara, 1 in Kamrup, 2 in Sibsagar and 2 in Lakhimpur. The sanctioned scale of mandals and patwaris is now 237 in the 1st, 699 in the 2nd and 245 in the 3rd grade. The number actually entertained on the 30th September 1915 fell short of the sanctioned strength by only 4, this was due to late receipt of sanction in some cases and to want of local men in the others.

Further efforts were made during the year to secure resident mandals for all lots District Officers gave their personal attention to the matter and doubtless largely, as a result of this there have been various corrections in the statement of resident and non-resident mandals.

A statement showing the actual number of resident and non-resident recorders in each district on the 30th September is given below :—

Statement showing actual number of non-resident recorders in such district on 30th September 1915.

Name of district.	Number of resident mandals and patwaris.	Number of non-resident mandals and patwaris.	Number of mandals and patwaris who have been exempted by superior orders.	Total.	Number of mandals and patwaris who have become resident or been exempted during the year under report.	Remarks.
1	2	3	4	5	6	7
Cachar	64	16	19	99	...	
Sylhet	37	31	1	69	4	
Goalpara ...	28	13	Nil	41	3	
Kamrup	180	33	87	300	5	
Darrang	96	18	32	146	1	
Nowgong ...	117	7	45	169	...	
Sibsagar ...	158	20	32	210	20	
Lakhimpur ...	121	3	3	127	8	
Garo Hills ...	5	7	...	12	...	
Central and Eastern Sections, North-East Frontier.	...	4	...	4	...	
Total ...	806	152	219	1,177	41	

A fairly large number of recorders living within 2 miles of their lots have hitherto passed as resident while some others particularly in the districts of Kamrup, Nowgong and Sibsagar, tried to evade the rule by residing within their lots temporarily. It is believed that the figures now shown are accurate. Some improvement has taken place in Darrang and Lakhimpur. In Goalpara death and the dismissal of some resident mandals coupled with the creation of 4 new lots where no trained local men are available have brought about a temporary reduction in the number of resident recorders. The decrease in Sylhet is only apparent and is due to the deputation of a number of resident patwaris to settlements as temporary Supervisor Kanungos. Endeavours continued to be made to train local candidates to replace non-resident mandals; with this object in view 4 free studentships under rule 13A of the Land Records Manual were granted during the year in the Gauhati Survey School.

Supervisor Kanungos.

5. Three additions were made in the year under report to the sanctioned scale of Supervisor Kanungos, *viz.*, one in Goalpara, one in Kamrup and one in Sibsagar. The cadastral survey of the Ripu Duar in Goalpara and the introduction as an experimental measure of the system of village unions in Kamrup and Sibsagar account for the increase. As one of the new posts was sanctioned in the 1st grade on Rs. 40 and 2 in the 2nd on Rs. 30, the staff now includes 48 posts in the 1st grade and 28 in the 2nd. The full number has been entertained. In addition a mauzadar in the Eastern Duar receives Rs. 25 a month for doing land records work. General remarks on the work of the Land Records establishment of the province will be found in paragraph 10. During the year 931 mandals and patwaris were fined a sum of Rs. 1,859-12-6.

Punishment.

Details district by district are given below :—

Statement showing fines imposed on recorders during the year ending on 30th September 1915.

District.	Total number of recorders fined.	Fines imposed on recorders for				Fines subsequently remitted.	Net amount of fines imposed.
		Absence without leave.	Delay in submitting papers.	Other cases.	Total.		
1	2	3	4	5	6	7	8
		Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
Cachar	66	...	...	32 12 0	32 12 0	Nil	32 12 0
Sylhet	10	2 4 0	3 8 0	13 0 0	18 12 0	Nil	18 12 0
Goalpara	9	...	11 0 0	27 0 0	38 0 0	Nil	38 0 0
Kamrup	264	101 12 0	97 0 0	238 0 0	436 12 0	18 12 0	418 0 0
Darrang	108	32 4 0	30 12 0	124 13 0	187 13 0	Nil	187 13 0
Nowgong	242	162 0 0	165 0 0	98 0 0	425 0 0	9 12 0	415 4 0
Sibsagar	156	417 0 0	45 0 0	18 8 0	480 8 0	...	480 8 0
Lakhimpur	75	190 11 6	47 0 0	23 0 0	260 11 6	...	260 11 6
Garo Hills	1	8 0 0	...	...	8 0 0	...	8 0 0
	931	913 15 6	399 4 0	575 1 0	1,884 4 6	28 8 0	1,859 12 6

The total amount of the fines imposed was Rs. 1,859-12-6 as against Rs. 1,546-8-2 last year. The average fine imposed works out at approximately Rs. 2 as against an average of about Re. 1-8 during the three preceding years. The number of mandals thus mulcted has, however, decreased. The tendency to inflict fewer but heavier punishments is, I think, a proper one.

Three Supervisor Kanungos in Kamrup and one in Nowgong were during the year fined a sum of Rs. 15 and Rs. 10 for bad work. In the early part of the year the field allowance of one Supervisor Kanungo in Kamrup was stopped as a punishment for indifferent work; his work, however, improved and his allowance was restored later on in the year.

Travelling allowance.

6. The amounts drawn as travelling allowance by Supervisor Kanungos and recorders during the year were Rs. 1,782-10-6 and Rs. 2,722-2-9, respectively. There has been a substantial increase under both heads. In case of Kanungos the increase is most marked in Kamrup, Nowgong and Lakhimpur. In some district mandals used to receive no travelling allowance for journeys to and from headquarters in connection with recess work. It was ruled early in the year that for such journeys they should receive the travelling allowance to which they are entitled under the rules of the Civil Service Regulations. This would appear to be chiefly responsible for the increase in the travelling allowance drawn by them.

Name of district.	Travelling allowance drawn by Supervisor Kanungos.	Travelling allowance drawn by mandals and patwaris.
	Rs. a. p.	Rs. a. p.
Cachar	5 10 9	...
Sylhet	486 6 3	621 0 9
Goalpara	67 12 0	130 13 9
Kamrup	557 12 9	711 3 6
Darrang	6 12 0	54 0 0
Nowgong	102 3 0	726 1 6
Sibsagar	5 8 6	144 11 0
Lakhimpur	469 4 3	124 15 3
Garo Hills	81 5 0	209 5 0
	1,782, 10 6	2,722 2 9

Sub-Deputy Collectors.

7. Two new circles of Sub-Deputy Collectors, one at Nalbari in Kamrup and the other at Jorhat in Sibsagar, were formed during the year; this was in connection with the experiment in village unions.

The work done by the Sub-Deputy Collectors in charge of Land Records is briefly shown in Appendix B. A comparison of this statement with that of the previous year will show that, on the whole, there has been improvement.

Inspection notes on their work made by various officers point to the same conclusion. There are, of course, cases in which supervision has been slack and inefficient. The names of the officers who have done particularly bad work will be, in due course, reported for the information of the Chief Commissioner.

The natural ambition of the ordinary Sub-Deputy Collector is to obtain promotion to the Provincial Executive Service which offers the attractions of better pay and prospects. To these may be added what popularly seem to be considered the advantage of a life which is in most cases largely a sedentary one.

I think that it cannot be too strongly impressed upon the officers concerned that the only way to attain this is by hard and good work in their present posts. A period of such work is probably the best preliminary training for the duties of an Extra Assistant Commissioner. It might be well if it were more often made an avenue of approach to the Provincial Executive Service. Any officer who takes a keen interest in the administration of the work of Land Records will, I think, appreciate promotions from the staff, provided that they have been preceded by a reasonably long period of really good work. It is somewhat surprising that there are Circle Officers who apparently fail to recognise how fatal indifferent work must be to their future prospects. Frequent transfers of Circle Officers cannot but be detrimental to Land Records work. They are especially injurious when more than one circle is left in charge of only one officer. In these respects matters have been better than they were in the previous year. It is hoped that during the present year certain special and unavoidable conditions, which resulted in a somewhat large number of transfers, will no longer exist.

Maulvi Abdur Rasid of the Eastern Duars has done exceedingly good work, both as a Circle Officer and in connection with re-settlement in the Guma Duar. Among other Sub-Deputy Collectors in charge of circles who have done well I may mention the following :—

Babu Pramod Chandra Sen Gupta of Nalbari, Srijut Achyutananda Pathak of Barpeta and Bojali, Srijut Khageswar Barua of Bojali, Srijut Jagannath Bujar Barua of Samaguri, Srijut Surendra Nath Gohain of Kumargaon and Babu Har Kumar Das of Jorhat. In the Surma Valley, Babu Ananda Behari Mitra and Babu Biraja Kanta Ghosh appear to have done well at Gowainghat and Karimgauj. I have already referred to the services in that Valley of various officers employed on settlement work.

Progress of survey.

8. Appendices C and D show the progress of survey in each plains district in the province and in the plains portion of the Garo Hills. Figures for the Central and Eastern Sections of the North-East Frontier to which a portion of the Lakhimpur district has been transferred are not at present available. It will be seen from the figures in columns 2 and 7 of Statement D that for 26·86 per cent. of the area cadastral survey and preparation of records were complete on the 30th September 1915. These figures exclude areas which have as yet been traversed only. As in previous reports the total area includes large stretches of waste land for which detailed maps and records-of-rights are not yet necessary. The most important outstanding areas are the permanently-settled portions of the Sylhet and Goalpara districts : in the former a beginning has, as already explained, been made experimentally. Extension surveys, it will be seen, were carried out last year in all districts except Cachar, Sibsagar and Lakhimpur, the total area surveyed being 115·25 square miles. The largest area 60 square miles was in Kamrup, the Eastern Duars with an area of 31·25 square miles coming next. In Kamrup the work was done in block surveyed villages which have been re-surveyed cadastrally by the district Land Records staff on the basis of a theodolite traverse by the professional survey party. The area in Goalpara consisted partly of land re-surveyed and partly of land surveyed and settled during the year. The most important piece of work in these Duars was the re-settlement of the Guma Duar to which reference has already been made. A large number of non-cadastral villages in Nowgong have been surveyed and settled by the Land Records staff of that district. In the latter part of paragraph 10 of last year's report reference was made to a proposed scheme for training in the use of the theodolite

a number of picked recorders from each district of the Assam Valley; this was intended with a view to their completing the large arrears of theodolite traverse and keeping the work up to date in future. During the year my predecessor in consultation with the Deputy Commissioners and the Commissioner, Assam Valley Districts, drew up this scheme. It was, however, subsequently found that it would be cheaper and more expeditious to have the arrears cleared off by the Survey Department. This does not apply to the district of Goalpara; the arrears there are small and mandals have already been successfully trained in the work. It was considered desirable that the arrears, elsewhere than in Goalpara, should be worked off by the Survey Party, mandals being trained in each district so that they would be able to dispose of such current work as may arise in future. Proposals were accordingly submitted in my letter No. 583—3087, dated the 28th May 1915, and sanctioned in Government letter No. 3071R., dated the 23rd July 1915. The Survey Department proposes to begin work this season in the districts of Kamrup and Darrang.

Maintenance of record.

9. The records were as usual maintained by the Land Records staff; endeavours were made to keep them up to date mainly by work done in the field. Statistics of mutations effected during the year are given in Appendix E. As usual the percentage of mutations to *pattas* is, for reasons explained in the previous reports, larger in the Surma than in the Brahmaputra Valley. The settlement operations in Cachar and the Jaintia parganas, which were accompanied in the latter area by the splitting up of *ijmali pattas*, have resulted in an extraordinary stimulus to mutation work. In the Assam Valley the figures do not show any very noticeable fluctuations as compared with those of last year. It is satisfactory to note that in Sibsagar and Lakhimpur the number of transfers by summary procedure shows a substantial increase. It should at the same time be observed that in Sibsagar the number of mutations effected by regular procedure bears what appears to be an unduly high proportion to the total. There may be a satisfactory explanation, but it is most desirable that such work should be done as far as possible on the spot and not in office. The large increase in the number of *khiraj pattas* in Goalpara is due to the re-settlement of the Guma mauza. In Sibsagar increase is ascribed chiefly to the conversion of annual into periodic *dags* and to the large number of mutations effected in the field. Mauzadars do not appear to have exercised to any considerable extent their powers to effect mutations locally in uncontested cases. I have during my present tour been making special inquiries about this. Probably much more will be done by them this year. One tendency against which special precautions will have to be taken is that towards carrying out mutations in the mauzadar's house instead of in the village. This is, of course, contrary to the rules and strong measures should be taken to prevent it.

State of Land Records.

10. Mr. McSwiney inspected the work of the Land Records staff both in the field and in office in all the seven circles in Kamrup, in three of the four in Darrang and in Kampur Circle of Nowgong. In addition to his inspections of the settlements in progress in the Surma Valley, he also made an inspection of the Guma Settlement in Goalpara. In Kamrup he appears to have found the work in the Barpeta, Nalbari and Kamalpur Circles in a fairly satisfactory condition, while the very bad state of affairs in the Chhaygaon Circle was beginning to improve under the care of the Sub-Deputy Collector Nasib Ali Mazumdar who had been recently transferred there. Work in the Rangiya as well as the Gauhati Circle was far from satisfactory. In the Bojali Circle things were improving since Srijut Khageswar Boruah had taken charge of the Circle. In two of the Circles of Darrang district the state of affairs appears to have been fairly satisfactory, but in Behali there had been too many changes of Circle Officers and closer supervision was badly needed. In Nowgong Mr. McSwiney's attention was devoted solely to the starting of the new Sub-Deputy Collector's Circle. I append, as is the annual practice, a note made by my Land Records Assistant on his inspection.

The fact that I was not in charge of the Department during the field season when work can be examined on the spot naturally makes it somewhat difficult for me to deal with this subject. It appears that there has been, on the whole, considerable improvement in the state of the records, though much remains to be done.

A fault frequently found is that there are mistakes in the area and classification of post-settlement *dags*. What is wanted is a thorough and systematic check of this work. This can be done in office, and if a programme is made and adhered to, there should be no difficulty in completing it within a year or two at the most. Such a programme is being carried out in some circles, and I hope that arrangements will be made for it in others in which the defects in question have been pointed out.

What I think is wanted is re-calculation of areas and testing of classification by means of the original records by mandals, with a reasonable percentage of check by Supervisor Kanungos and Sub-Deputy Collectors. This check is, of course, of the utmost importance, and mandals whose work is found by check to be inaccurate should be severely punished. To make isolated and haphazard corrections is of little use.

The issuing of periodic *pattas* for land, the survey, area calculation and classification of which have not been properly tested is, unfortunately, a not uncommon practice. This is thoroughly bad and most discreditable to the Sub-Deputy Collector concerned. A point to which many Sub-Deputy Collectors fail to pay sufficient attention is the supervision of the work of their Supervisor Kanungos. This is a matter upon which inspecting officers cannot lay too much stress.

These three of the many points which require attention seem to me to be of great importance.

Note by the Assistant to the Director of Land Records on his inspection of the Land Records work during the year ending 30th September 1915.

I was in charge for only 305 days, having been on two months' leave during the year. I spent 258 days on tour and inspected the work of 391 mandals in 32 sub-circles and 20 circles, and run altogether 48·76 miles of check lines. I beg to submit below a summary of my inspection reports from which it will be seen that the condition of the records in most of the circles visited is being gradually improved, and that if the Circle Officers are made to continue their efforts towards that direction, the records will attain the required standard before long. But unfortunately the amount of supervision exercised by these officers varies largely in different circles and consequently the results are not the same everywhere. In circles where whole-hearted attempts were made to carry out the suggestions and instructions given in the previous inspection notes the condition of the records showed marked improvement, while in others where the supervision was slack the condition of things remained as bad as ever. The objectionable practice of issuing periodic leases for fields, the survey, land classification, and area calculation of which had not been previously checked and corrected where necessary, is still being continued in certain circles.

In the majority of the circles the mutation work received better attention than before. The mauzadars who were recently empowered to sanction mutations have not yet commenced their work in earnestness. From what I have seen of the work done by some of them it appeared that they had not carefully studied the rules on the subject and consequent irregularities in the procedure were often committed. It also seemed to me that the majority of these officers were averse to going out to the villages, but preferred to do the work by collecting a number of people at their office or some weekly *hát* situated far away from the villages concerned.

Tengakhat Circle in charge of Maulvi Fazlur Rahman :—

Lakhimpur.

I inspected the work of only 6 mandals of the Dihing Sub-circle. The records on the whole appeared to be in fairly good condition, but the inspection of the *sarkari dags* required more attention than what appeared to have been paid. I discovered a few plots of land which have escaped assessment.

The survey marks were well looked after and the mutation work was kept well up to date.

Dibrugarh Circle in charge of Babu Taracharan Desmukhya :—

Only one of the two sub-circles was visited by me. Barring a number of mistakes in land classification discovered by me, the records were found in tolerably good condition. I discovered bad survey mistakes in a village surveyed in extension where the Sub-Deputy Collector had not run any check line at all. Due attention appeared to have been paid to the maintenance of the survey marks.

In the course of my local inspection of mutation work I discovered that proper care had not been taken to find out and enter in the *chitha* the names of the unregistered *dakhalkars*.

Tinsukia Circle in charge of Maulvi S. S. M. Chisti :—

The present Sub-Deputy Collector had taken charge from Srijut Debananda Bharali only about a month ago.

Inspection of the survey marks and hot weather crops appeared to have received due attention in both the sub-circles.

Mutation work in the Dumduma sub-circle was found to be fairly up to date; in the Tinsukia sub-circle a number of cases was noticed in the *chithas* of almost every lot which had been pending for two years or more. The work suffered to some extent for want of proper supervision. The Supervisor Kanungos of both the sub-circles failed to run even the minimum amount of check lines and the former Sub-Deputy Collector to test the required percentage of the *faut-ferrar* and *jotrahin dags* of the preceding year.

Ranganadi Circle in charge of Srijut Rameswar Saikia :—

The results of my examination of the records both in the office and in the field were found fairly good and much improvement in their condition was noticed since my last inspection. Proper attention was paid to the maintenance of the survey marks.

Mutation work was comparatively light in this circle, but what there was appeared to be quite up to date. On the whole, I was satisfied with the manner in which the Land Records work was being supervised here.

Subansiri Circle in charge of Maulvi Nurul Hussain Hajarika :—

The records on the whole were found in fairly good condition and the supervision exercised over the mandals' work sufficient.

The survey marks which I came across were mostly in good condition.

Mutation work was light and was kept quite up to date.

Moriani Circle in charge of Babu Srish Kumar Sen :—

No appreciable improvement was noticed in the condition of the records. They were ordered to be thoroughly checked after mistakes had been discovered in large number at previous inspections, but the check, if at all appeared to have been carried out in a very careless manner, as I again found a larger number of mistakes in land classification and area calculation in both the sub-circles. The amount of field testing done by the Supervisor Kanungos was not sufficient.

Sibsagar.

Extension survey of six villages was carried out, but remained to be checked by the Sub-Deputy Collector who was then in charge. I tested the survey and classification and found the work on the whole done with fair accuracy.

Mutation work was found to be fairly up to date in the majority of the lots, but was neglected in the rest. The entries in the *chithas* as well as my local verification showed many long pending cases. The Director of Land Records also noticed these arrears in his inspection note of the previous year. In fairness to the present Sub-Deputy Collector, it should be noted here that he is not wholly responsible for the state of things in this circle.

Jorhat Circle in charge of Babu Har Kumar Das :—

Orders passed at previous inspections to have the records systematically checked did not appear to have been carefully carried out as mistakes in land classification were again discovered by me in both the sub-circles.

The results of field testing carried out by me was found unsatisfactory in the majority of the lots. The survey mistakes in certain lots were due to mistakes in the position of the survey stations fixed in the course of a traverse by the sight-rule. A theodolite traverse was necessary to rectify them.

The survey marks which I saw were mostly in good condition.

Mutation work existed only in a limited part of the Circle and that even was not kept up to date as was disclosed by the pending cases in the *chithas* and my local verification.

The maps of the villages surveyed in extension in the Hazari mauza had not been attested by any responsible officer.

The Sub-Deputy Collector's supervision over the work of the mandals, specially in the Majuli Sub-circle, appeared to be insufficient.

Nazira Sub-circle in charge of Srijut Tarini Charan Sarma :—

The present Sub-Deputy Collector had taken charge very recently from Srijut Annada Charan Bhattacharjee, transferred. Mistakes in measurements, land classification and area calculation were found common in the records and were due to neglect on the part of the staff to carry out instructions left at previous inspections to have them carefully checked. Periodic leases were issued for fields without the mistakes having been previously rectified.

I checked the extension survey villages in both the sub-circles and found the work fairly correct. But the testing and attestation carried out by the Sub-Deputy Collector were neither sufficient nor in accordance with the standing orders.

The survey marks in certain lots had not received proper attention and in consequence a number of them had been lost.

My local verification, and that was only in one mandal's lot, disclosed names of many deceased *pattadars* who had been dead several years ago and yet no mutation effected.

Sibsagar Sub-circle in charge of Maulvi Muhibuddin Ahmed :—

I examined the records of only 8 mandals of one sub-circle and found them in as bad a condition as before. No steps appeared to have been taken to improve them, though orders had been left and means suggested to that effect at previous inspections.

My test measurements disclosed no serious mistakes in the villages surveyed in extension during the year. But the work had not been sufficiently tested by the Supervisor Kanungo or the Sub-Deputy Collector.

I found from my local verification that mutation work had been much neglected at least in a number of villages.

Kumargaon Circle in charge of Srijut Surendranath Gohain :—

I visited only the two outlying lots in the fluctuating area which had been recently transferred from the Golaghat Circle. The results of my field testing were not found satisfactory.

Golaghat Circle in charge of Babu Krishna Behari Chowdhuri :—

I inspected the work of only the fluctuating sub-circle. Barring a few mistakes in the measurement and area calculation and a few small plots of unassessed land, I found the records on the whole in better state than before.

Behali Circle in charge of Srijut Bepin Chandra Bardaloi :—

The circle was without a Sub-Deputy Collector for about five months.

Inspection of survey marks and hot-weather crops had not been carried out very carefully.

Some improvement was noticed in the condition of the records, but the results of field testing were not very satisfactory : survey mistakes and plots of unassessed land were discovered in several places.

The villages surveyed in extension during the field season of 1912-13 had not been sufficiently tested and my check lines in some of them disclosed bad survey mistakes. Annual fields were converted into periodic before their survey and area calculation had been checked.

The Kanungo and the mandals were in need of more strict supervision.

My local verification in certain lots showed that proper attention had not been paid to the registration of the names of the unregistered *dakholkars*.

Tezpur Circle in charge of Srijut Tarini Charan Sarma :—

The records of both the sub-circles were examined by me during the summer recess, and were found, on the whole, in fairly satisfactory condition. The instructions left by me and the Director of Land Records at the previous inspection to have the records checked, had been carried out but somehow or other a number of mistakes had escaped detection.

Mutation work appeared to have been kept fairly up to date.

Samaguri Circle in charge of Srijut Jagannath Baruah :—

Nowgong. The results of field testing and of the examination of the records in the office were, on the whole, found satisfactory and marked improvement in the condition of the records was noticed. Mutation work appeared to be well up to date.

Dhing Circle in charge of Srijut Bholanath Kakati :—

I carried out field testing in all the 3 sub-circles and was fairly satisfied with the results. But my examination of the records in office disclosed many mistakes in area calculation and land classification. The records had not been carefully checked, though suggestions to that effect had been left at previous inspections.

The survey marks required more attention than what appeared to have been paid.

Roha Circle in charge of Maulvi Anwar Hussain :—

The work of the Roha and Jagiroad Sub-circles was inspected by me. Some improvement in the condition of the records was noticed, but they had not attained the required standard and required further check. I discovered again many mistakes in land classification and area calculation. The results of field testing were found satisfactory.

Kampur Circle in charge of Maulvi Habibur Rahman :—

I discovered a large number of mistakes in land classification and area calculation in the records of the Jamunamukh mauza recently transferred from the Roha Circle. Mistakes were found also in crop entries.

The results of my check lines were found fairly good in some lots but unsatisfactory in others.

The survey marks appeared to have been properly maintained in the majority of the lots.

Better supervision over the work was required on the part of the Sub-Deputy Collector.

Kamalpur Circle in charge of Srijut Tarini Charan Chowdhuri :—

Kamrup. I examined the records of both the sub-circles during the summer recess and found them in much better condition than before. There was still room for further improvement in the records of the Patidarang Sub-circle.

Rangia Circle in charge of Srijut Umanath Gohain :—

I examined the records of only one, the Rangia Sub-circle. Much improvement in the inspection of the survey marks and hot-weather crops was noticed, and mutation work appeared to be well up to date. The records were, however, found in as bad a condition as before. The orders passed at my and the Director's previous inspections to have the records checked had not been carried out, but deferred to some future time.

Eastern Duars Circle in charge of Maulvi Abdur Rasheed :—

Goalpara. Marked improvement was noticed in the condition of the records of the Gosaingaon Sub-circle. But those of the other two sub-circles were found in very discreditable state. I was told that the records had been thoroughly checked as suggested at my previous inspection, but I am afraid the check, if at all, must have been carried out in a most careless manner, as I again found that the records contained not only survey mistakes but also innumerable mistakes in area calculation.

A very large number of villages were traversed and surveyed by the local agency. Barring a number of survey mistakes disclosed by my check lines the work, on the whole, appeared to have been done well for which credit was due to the staff. I, however, noticed that the amount of testing done was far below the required minimum and in many villages no check was carried out at all by the Sub-Deputy Collector.

Due attention was paid to the maintenance of the survey marks.

Inspection of land records works done by the district staff.

11. There has been a great advance in the matter of the checking of land records works by District and Subdivisional Officers. This remark applies more particularly in the Assam Valley.

While there are others who appear to have devoted considerable attention to this work I may make special mention of Colonel Playfair and Mr. Dawson among Deputy Commissioners and of Messrs. Friel, Vickers and Kanak Lal Barua among Subdivisional Officers.

My special thanks are due to Mr. Dawson for the careful and sustained control which he has exercised over the Land Records staff in his district.

It is not, I think, necessary for me to enter into details of the work done. I can say, however, that the figures reported show that the progress in this respect has been remarkable.

I need hardly say that, apart from the general control which may, to a certain extent, be exercised from the office, what is chiefly wanted is inspection in the field. It is evident that a great deal has been done this year. It would be useful, however, if all officers concerned would make it clear how much of their inspection, apart from the running of *partals*, has been done in the lots of the mandals concerned.

As regards the Surma Valley there is little to report. Cachar is now under re-settlement and check by the Deputy Commissioner and Subdivisional Officer is not required. Inspite of his numerous duties, the Deputy Commissioner of Sylhet found time for some land records work. The Subdivisional Officer of Karimganj was able to do some this year, but it is not very clear how much. Elsewhere in Sylhet none appears to have been done by the Subdivisional Officers or such. Inspite of the fact that their other duties are generally speaking heavier than in the subdivisions of the Assam Valley, while land records work is of much less importance, I think they might find time to do a little.

Survey marks.

12. Appendix F contains the results of the inspection of survey marks in the province. The difference between the total number of marks from year to year in most districts formed the subject of special remarks in last year's report and was noticed in paragraph 8 of the Resolution thereon. The special attention of Deputy Commissioners was invited to this matter early in January 1915. They were asked to explain the discrepancies and to furnish correct figures for this report. The reasons given for the differences are many, but the principal of them may be summarized as follows:—

(1) Reporting of wrong figures by Supervisor Kanungos and Sub-Deputy Collectors.

(2) Wrong classification.

(3) Erection of new marks in course of extension survey and settlement and on the boundaries of grazing reserves.

(4) Discovery and restoration of lost marks as in the case of the area in Kamrup which was damaged by the earthquake.

(5) Washing away of boundary marks by rivers and floods.

Efforts have been made in all the districts to verify and correct the figures and it is hoped that those reported this year are fairly accurate. In Cachar the Deputy Commissioner intends to have the marks thoroughly examined at the close of the re-settlement. The increase in the number of marks repaired is satisfactory. But a good deal still remaining to be done, the percentage of marks inspected but not repaired is again very high. No reasons have been given for this. The matter will be brought to the special notice of the Deputy Commissioners concerned.

PART III.—Miscellaneous.

Changes and reforms.

13. The year was rather barren in the matter of reforms of importance or interest. A revised edition of the Land Records Manual was submitted soon after the close of the year for the approval of the Chief Commissioner. In this are embodied a good many changes which would otherwise have been dealt with separately.

(*a*) The following rules were finally approved during the year :—

(1) Rules prescribing the details to be entered in the records-of-rights in the Sylhet experimental area (*vide* Revenue Department Notification No. 4940R., dated the 14th December 1914).

(2) Rules for the recovery of the cost of survey and demarcation under sections 27 and 152 of the Assam Land and Revenue Regulation; these were referred to in paragraph 16 (*g*) of the last year's report, *vide* Revenue Department Notification No. 4823R., dated the 3rd December 1914.

(*b*) Complaints having been received as to the unsuitability of the standard plan for Sub-Deputy Collector's quarters, proposals for its improvement were submitted.

(*c*) It has been the practice for special rewards under rule 14 of the Land Records Manual for exceptionally good work in the field to be given only to recorders. Supervisor Kanungos were debarred from this privilege, though prior to the introduction of the rules in the Land Records Manual they received rewards for good work done both at re-settlement and at other times. This was considered to be very hard on these officers and accordingly, at the instance of this Department, sanction to grant of special rewards to Supervisor Kanungos for specially good work in settlements and extension surveys was accorded in the Chief Secretary's letter No. 4525R., dated the 11th November 1914.

Settlement training.

14. Thirteen officers underwent training in survey at Gauhati and in settlement in the Jaintia parganas of Sylhet; of these 2 were Assistant Commissioners, 2 Extra Assistant Commissioners and 9 Sub-Deputy Collectors. All were passed as qualified.

Charge and tour.

15. Mr McSwiney held charge of the Department from the 1st October 1914 to the 26th April 1915. I was in charge for the rest of the year. Mr. McSwiney spent 153 days on tour. His inspections have already been referred to. I was on tour for 50 days. I inspected the Settlement offices at Silchar and Sylhet and discussed various questions of procedure and detail with the Settlement Officers. In addition I did some inspection work in the offices of the Circle Sub-Deputy Collectors of Jorhat and Nalbari. A large proportion of my time during this tour was, however, devoted to work in connection with the Agricultural Department; in this province the Department of Land Records and Agriculture are under one head.

Rai Radha Kanta Handiqui Bahadur continued to do useful work as Land Records Assistant. My Personal Assistant Babu Chandra Nath Sarma has a good knowledge of his duties and has given me great help both in the preparation of this report and in other matters.

A. R. EDWARDS,

Director of Land Records and Agriculture, Assam.

APPENDIX A.

Progress of resettlement work in Assam during the year ending on 30th September 1915.

Name of district.	Number of villages.										Expenditure during the year.
	Correction of maps and records.		Soil classification.		Record attestation.		Revenue attestation.		Submission of rate reports.		
	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	Programme.	Work done.	
1	2	3	4	5	6	7	8	9	10	11	12
Cachar	174	174	216	216	736	670	...	...	...	...	.....
Jaintia (Sylhet)	719	719	719	719	...	...	...	...	...	...	.....

APPENDIX B.

Work statement of Sub-Deputy Collectors for the year ending 30th September 1915.

Name of Circle or Subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaris in the circle.	Number of mandals or patwaris whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
CACHAR.															
Hailakandi ...	Babu Kamini Mohan Datta	Permanent 29 Temporary 25	54	278	156	...	42·31 chains.	...	...	...	9,917	14	Permanent 2, temporary 6.	All worked satisfactorily.	District under resettlement.
SYLHET.															
Sylhet Sadar ...	„ Ananda Bihari Mitra	3	3	461	...	4	2 miles.	65	4	171	...	...	Chandra Kumar Bose...	Good.	
Karimganj ...	„ Rajani Kanta Gupta...	4	4	347	85	12	174·4	337	326	36	80	...	Padma Lochan Das ...	All did hard work.	
													Ramdoyal Bhattacharjee.		
													Dwarikanath Adhikari		
South Sylhet ...	„ Surendra Nath Chaudhuri.	5	5	924	45	6	19·58	307	...	9	...	...	Hridoy Chandra Ghosh	Good.	
	„ Rajani Kanta Gupta ...														
	„ Biraja Kanta Roy Dastidar.														
Habiganj ...	Maulvi Dirajudin Ahmad ...	2	2	204	33	17	407·63	205	17	30	...	...	Abdul Khalique ...	Unsatisfactory.	
													Ishan Chandra De ...	Fairly well but slow.	
Sunamganj ...	Babu Dinesh Chandra De Purkayasthya.	3	3	166	9	4	50	...	...	...	...	...	Golok Chandra Kar ...	Worked well.	
													Bharat Chandra Aditya	Not very satisfactory.	
Patharkandi ...	Maulvi Mushrafulla ...	6	6	208	110	8	127	1,646	80	27	1,275	12	Gopal Chandra Chatterjee.	Good.	

Gowainghat ...	.....	...	...	...	...	...	...	...	...	...	...	...	.....	.....	Under resettlement.
Kanairghat ...															
GOALPARA.															
Eastern Duars ...	Maulvi Md. Abdur Rasid ...	41	41	614	377	59	25·74	868*	16	122	...	...	.....	.....	* Also checked an area of 6,920 plots.
KAMRUP.															
Gauhati ...	Srijut Kamal Chandra Kagti	38	38	303	205	47	19·65 miles.	5,171	143	348	1,744	402	Kayaram Talukdar ...	Did good work.	
													Dhaniram Das ...	Somewhat slack.	
Chhaigaon ...	Maulvi Nasibali Majumdar	45	45	393	216	48	23 miles.	4,092	160	109	687	88	Sarat Chandra Chaudhury.	Taking better interest than before.	
													Sibram Das ...		
Kamalpur ...	Srijut Tarini Charan Chaudhury.	40	40	292	262	37	17·62 miles.	1,092	36	67	958	382	Jangannath Deka ...	Satisfactory.	
													Pitambar Das ...		
Rangiya ...	Srijut Hariprasad Das ...	46	8	324	27	14	6·62	263	24	25	75	69			
	,, Uma Nath Gohain from 18th December 1914.		46		205	29	12·72	1,154		175	780	269	Rupram Chaudhury ...	Both did good work ...	† Effected by mauzadars.
	,, Ramananda Chowdhury		5		12	...	...	50		3	197† ...	...	Bhogirath Das ...		
Northern Nalbari	Babu Promode Chandra Sen Gupta.	27	19	136	34	...	...	...	...	...	...	...	Purnananda Chaudhury	Experienced and highly able.	
	Srijut Hari Prasad Das from 19th December 1914 to 25th August 1915.		27		12'	23	10·25	759	54	176	1,223	149	Ugranath Sarma ...	Promises to be good.	
Southern Nalbari ...	Babu Promode Chandra Sen Gupta.	32	32	210	210	15	6·13	9,502	114	413	1,987	407	Durparam Dutta ...	Both worked satisfactorily.	
													Dhaturam Tahsildar ...		

APPENDIX B—*contd.*

Work statement of Sub-Deputy Collectors for the year ending 30th September 1915.

Name of Circle or Subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaris in the Circle.	Number of mandals or patwaris whose papers were checked.	Number of villages in the Circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
KAMRUP—*concld.*															
							Miles								
Barpeta ...	Srijut Achyutananda Pathak from 1st October 1915 to 15th February 1915 and from 16th February 1915 to 26th May 1915, both Barpeta and Bojali circles.	20	20	257	197	43	15·34	3,148	9	154	52	15	Gangaram Das ...	Satisfactory.	
	Srijut Khogesvar Barua ...														
Bojali ...	Srijut Khogeswar Barua ...	51	51	387	143	39	12·60	1,837	320	254	729	454	Sitaram Das ...	Satisfactory.	
													Moniram Chowdhury		
	„ Achyutananda Pathak from 27th May 1915 to the end of the year.		51		187	26	7·45	1,186	55	144	445	195			

DARRANG.															
Tezpur ...	Rai Sahib Betharam Sarma, from 1st October 1914 to 6th February 1915.	30	26	201	101	8	2·87 miles.	2,621	62	204	394	98	Fultungram Deka ...	Working well.
	Srijut Tarini Chandra Bhattachari, from 7th February 1915 to 30th September 1915.		30		211	7	2·97	3,587	12	137	434	172	Ratikanta Das ...	
Behali	Srijut Bepin Chandra Bordalai.	31	31	307	203	21	10·79	2,793	10	110	565	116	Sarbeswar Bhagavati...	Fair.
													Jogeswar Hazarika ...	Satisfactory.
Mangaldai ...	„ Uma Charan Gohain ...	43	41	352	245	36	11·59	2,654	144	212	1,081	92	Moniram Das ...	Satisfactory.
													Jagat Chandra Saharia	
Kalaigaon ...	„ Annada Charan Bhattacharji.	42	40	569	250	...	17·94	999	54	190	561	1	Nomal Chandra Saharia	Satisfactory.
	„ Premadhar Gohain ...	...	...	...	105	...	...	...	...	...	...	1	Rupran Das ...	
NOWGONG.															
Sadr ...	„ Bholanath Kakati ...	52	52	440	380	116	43·5	2,801	51	493	600	178	Chandra Kanta Bhuyan	Satisfactory.
													Surat Chandra Bora ...	Fair.
													Kanja Mohan Dowara...	Satisfactory.
Samaguri ...	„ Jagannath Bujar Barua	35	35	342	282	109	37·08	4,276	201	752	1,529	147	Bisan Sing Chetri ...	Did excellent work.
													Jovinda Chandra Saikia	Worked satisfactorily.
Roha	Maulvi Muhammad Anwar Hosain.	53	58	474	273	88	33·70	2,488	55	537	1,781	47	Durgaram Das ...	Satisfactory.
													Dinanath Sarma ...	
													Kinaram Sarma ...	
Kampur ...	„ Habibur Rahman ...	27	27	230	135	73	27·43	2,144	61	192	1,291	30	Bhagirath Laskar ...	Satisfactory.
													Srinath Bora ...	
SIBSAGAR.															
Jorhat ...	Babu Harkumar Das from 1st October 1914 to 30th September 1915.	40	40	354	238	148	15·94	9,127	239	928	2,151	312	Sibnath Sarma ...	On the whole did well.
													Mohiram Das ...	Slack in supervision and slow.
													Bathuram Das, Offg. ...	Work not thorough but superficial.

APPENDIX B—*concld.*

Work statement of Sub-Deputy Collectors for the year ending 30th September 1915.

Name of circle or Subdivision.	Name of Sub-Deputy Collector.	Number of mandals or patwaris in the circle.	Number of mandals or patwaris whose papers were checked.	Number of villages in the circle.	Number of villages visited.	Number of check lines run.	Total length of check lines run.	Number of *chitha* entries tested.	Number of *chitha* entries found incorrect.	Number of theodolite station marks inspected.	Number of mutation and partition cases effected on the spot.	Number of mutation cases done in the office.	Name of Kanungo.	Character of each Kanungo's work during the year.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SIBSAGAR—concld.							Miles.								
Moriani ...	Babu Srish Kumar Sen from 27th November 1914 to 30th September 1915.	37	37	360	234	19	4·47	5,041	183	282	1,253	1,017(*a*)	Parsuram Barthakur...	Fairly satisfactory ...	(*a*) Including 676 under rule 205 of the Land Records Manual.
	Babu Horkumar Das from 1st October 1914 to 26th November 1914.		37		57	....	...	242	2	62	55	60	Mohan Chandra Sarma		
Golaghat ...	Babu Krishna Behari Chaudhury.	40	40	328	180	36	12·65	5,553	...	327	1,237	201	Mohiram Barua ... / Bhakatram Das ...	Fair.	
Kamargaon ...	Srijut Surendra Nath Gohain	17	17	190	132	29	18·12	3,870	218	135	209	208	Mohiram Dutta ...	Satisfactory.	
Sibsagar ...	Maulvi Mahibuddin Ahmed	38	38	351	239	85	14·64	3,911	134	444	2,740	425	Umeswar Sarma ... / Tarun Chandra Sarma, Offg.	Fair.	
Nazira ...	Srijut Tarini Charan Sarma from 1st October 1914 to 3rd February 1915.	38	34	383	153	9	11·34	695	23	220	463	143	Amritram Chaudhury...	Satisfactory.	
	Srijut Khogeswar Barua, from 26th February 1915 to 30th September 1915.		38		140	37	14·58	765	49	115	1,387	312	Gobindaram Roy Chaudhury.		

LAKHIMPUR.														
Dibrugarh ...	Babu Tara Charan Desamakhya.	30	30	305	191	25	9·58	6,333	112	436	313	264	Jatiram Das ... Pabit Chandra Das ...	Satisfactory.
TengaKhat ...	Maulvi Mahammed Fazlur Rahman.	34	34	564	326	40	12·24	2,524	106	320	776	64	Dinanath Gohain ... Dimbeswar Gogoi ...	Fair. Careless and not thorough.
Tinsukia ...	Srijut Debananda Bharali from 1st October 1914 to 4th August 1915. Maulvi Syed Sheikhul Mosaik Chisti from 4th August 1915 to 25th August 1915, and from 16th September 1915 to 30th September 1915. Babu Tara Charan Desamukhya from 26th August 1915 to 15th September 1915.	27	27	249	143	43	5·00	1,373	4	42	384	211	Gopal Chandra Rajkhoa Lakheswar Das ...	Worked well. More energetic than last year.
Subansiri ...	Maulvi Nural Hussein Hazarika.	16	16	211	193	24	9	721	12	621	324	31	Sibnath Deka ...	Good.
Rangamati ...	Srijut Rameswar Saikia ...	20	20	307	302	51	17·25	3,294	17	458	660	138	Mohiram Das ...	Worked well.

APPENDIX C.

[" *Permanently-settled" in this table includes "revenue free.*"]

District.	Classification of district area (square miles).			Area for which a cadastral survey and record-of-rights are completed (square miles).			Area for which a cadastral survey and record-of-rights were being prepared in 1913-14 (square miles).			Area outstanding (square miles).			Remarks.
	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	Permanently-settled.	Not permanently-settled.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cachar	3	3,766	3,769	3	1,062	1,065	...	...	...	...	2,704	2,704	
Sylhet	3,825	1,555	5,380	...	844	844	106	305	411	3,719	406	4,125	
Goalpara	2,528	1,433	3,961	...	509	509	...	...	...	2,528	924	3,452	
Kamrup	53	3,805	3,858	53	2,233	2,286	...	...	...	...	1,572	1,572	
Darrang	8	3,398	3,406	8	1,220	1,228	...	2	2	...	2,176	2,176	
Nowgong	4	3,800	3,804	4	1,142	1,146	...	...	...	...	2,658	2,658	
Sibsagar	62	4,934	4,996	62	1,821	1,888	...	...	...	...	3,113	3,113	
Lakhimpur	3	3,977	3,980	3	728	731	...	...	...	...	3,249	3,249	
Garo Hills	...	3,140	3,140	...	58	58	...	...	...	...	3,082	3,082	
Total	6,486	30,035	36,521	133	9,506	9,639	...	13	13	6,486	20,516	26,940	

APPENDIX D.

Progress of " Extension " Surveys for the year ending 30th September 1915.

Name of district.	Total area of district (square miles).	Area surveyed by professional party (square miles).	Area surveyed in extension by village recorders.			Total area cadastrally surveyed (square miles).	Remarks.
			Previously (square miles).	During the year under report (square miles).	Total (square miles).		
1	2	3	4	5	6	7	
Cachar ...	3,769	1,034	31	Nil	31	1,065	
Sylhet ...	5,380	545	296	3	299	844	
Goalpara ...	3,961	...	478	31	509	509	
Kamrup ...	3,858	1,966	260	60	320	2286	
Darrang ...	3,406	1,015	213	2	215	1,230	
Nowgong ...	3,804	1,012	119	15	134	1,146	
Sibsagar ...	4,996	1,521	360	2	362	1,883	
Lakhimpur ...	3,980*	269	462	...	462	731	* Excluding 227 square miles transferred to North-East Frontier district.
Garo Hills (plains portion).	3,140	...	54	4	58	58	
Total ...	36,294	5,841	2,273	117	2,390	9,752	

APPENDIX E.

Name of district.	Classification of *pattas*.	Total number of *pattas*.	Number of (*pattas* or portion of *pattas*) transfers.		Number of (*pattas* or portions of *pattas*) transfers by—				Area, in acres, transferred by—				Remarks.
			By summary procedure.	By regular procedure.	Sale or usufructuary mortgage.		Succession.	Other causes.	Sale of usufructuary mortgage.		Succession.	Other causes.	
					Under decree by civil court.	By private gift or contract.			Under decree of civil court.	By private gift or contract.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Cachar ...	Periodic khiraj.	55,220*	21,784	14	2	6,132	4,194	11,470	(a)	9	(a)	(a)	(a) Figures not available.
Sylhet ...		52,421	1,275†	242†	...	869	638	66	1,435	788	1,725	157	
Goalpara ...		6,014	112	13	...	6	17	102	...	33	445	432	
Kamrup ...		144,272	9,258	868	99	2,963	5,821	1,243	424·74	5,165·20	15,682·66	3,484·35	
Darrang ...		98,545	4,022	575	25	1,921	2,270	351	79	18,680	7,060	13,079	
Nowgong ...		60,929	4,004	269	119	1,414	2,539	201	233·25	1,999·51	4,821·95	220·78	
Sibsagar ...		168,183	9,940	2,429	43	3,766	7,051	1,509	161	6,728	20,411	1,398	
Lakhimpur ...		62,420	2,523	524	107	1,653	1,166	121	180	4,976	3,635	276	
Garo Hills ...		...	...	...	...	...	...	...	...	...	...	...	
Total ...		648,004	52,918	4,934	395	18,724	23,696	15,063	2,512·99	38,378·71	53,780·61	19,047·63	
Cachar ...	Lakhiraj.	...	...	...	...	...	...	...	...	...	...	...	
Sylhet ...		...	...	...	...	...	...	...	...	...	...	...	
Goalpara ...		...	...	...	...	...	...	...	...	...	...	...	
Kamrup ...		38	4	3	...	...	1	6	...	...	7·81	222·34	
Darrang ...		28	...	4	...	...	...	4	...	...	...	874	
Nowgong ...		...	...	...	...	...	...	...	...	...	...	...	
Sibsagar ...		81	...	...	...	...	...	...	...	...	...	...	
Lakhimpur ...		5	...	...	...	...	...	...	...	...	...	...	
Garo Hills ...		...	...	...	...	...	...	...	...	...	...	...	
Total ...		152	4	7	...	...	1	10	...	...	7·81	1,096·34	
Cachar ...	Nisf khiraj.	...	...	...	...	...	...	...	...	...	...	...	
Sylhet ...		...	...	...	...	...	...	...	...	...	...	...	
Goalpara ...		...	...	...	...	...	...	...	...	...	...	...	
Kamrup ...		3,015	380	119	7	114	277	101	113·26	907·42	9,778·12	1,000·51	
Darrang ...		123	...	59	...	20	39	...	...	3,371	12,646	...	
Nowgong ...		...	...	...	...	...	...	...	...	...	...	...	
Sibsagar ...		432	11	6	...	5	12	...	...	11	155	...	
Lakhimpur ...		60	...	...	...	...	...	...	...	...	...	...	
Garo Hills ...		...	...	...	...	...	...	...	...	...	...	...	
Total ...		3,630	391	184	7	139	328	101	113·26	4,289·42	22,579·12	1,000·51	

* Exclusive of figures for attested villages.

† These figures are exclusive of 212,615 mutations effected in the Jaintia parganas by the Settlement Staff.

APPENDIX F.

Condition of survey marks during the year ending 30th September 1915.

No.	Classification.	Total number of marks.	Total number found in good order.	Number found not in good order.		Total of columns 4 and 5 in good order on 30th September 1914.	Number lost or left unvisited.
				Repaired.	Not repaired.		
1	2	3	4	5	6	7	8
1	Theodolite stations—						
	(i) Stone prisms	21,277*	15,603	3,408	1,036	19,011	1,232
	(ii) Square stone or blocks ...	31,317	24,590	826	1,193	25,416	4,708
	(iii) Other marks	83,377	39,335	15,824	11,136	55,159	17,082
2	Boundary marks of districts, etc. (other than theodolite stations)—						
	(i) Stone prisms	1,315	497	740	4	1,237	13
	(ii) Square stone or blocks ...	2,647	2,049	36	59	2,085	503
	(iii) Other marks	4,446	2,488	1,575	137	4,063	246
3	Boundary marks of private property (other than theodolite stations)—						
	(i) Stone prisms	5,766	5,260	47	119	5,307	340
	(ii) Square stone or blocks ...	15,512	13,811	81	308	13,892	1,317
	(iii) Other marks	8,169	6,653	194	358	6,852	952
4	Kanungo's mounds	15,226	6,131	2,451	1,530	8,579	5,114
	Total	189,052	116,422	25,182	15,875	141,601	31,507
	* Excluding Survey marks of grazing grounds in Nowgong	619	384	28	207	412	

A. S. P. O. (R. & A.) No. 72—250—9-2-1916—O. M. E.

Resolution on the Survey and Settlement Report, Assam, for the year ending the 30th September 1915.

Extract from the Proceedings of the Chief Commissioner of Assam in the Revenue Department, No. 499R., dated the 8th February 1916.

READ—

The Survey and Settlement Report, Assam, for the year ending the 30th September 1915.

RESOLUTION.

THE war necessitated considerable changes in the personnel of the higher appointments in the Assam Survey Department. From October 1914 to the 30th of April 1915, Major Hirst was either not in charge of the Department or was occupied with special work in addition to his ordinary duties. In spite of this, however, and of the reversion of Captain Gwyn and Captain Thompson to military employ, the tale of work was satisfactory, and 18 out of the 31 operations entrusted to the Assam Traverse Party were completed. There was a very considerable decrease in the output of the Reproduction Section, but, as explained by the Director of Surveys, the demand from Assam is always of a fluctuating nature. The Chief Commissioner is glad to learn that the publication of school maps was pressed on, and that all the district maps at present required by the Director of Public Instruction will be completed during the current financial year. The number of *thana* maps actually published up to date is not large, but substantial progress is anticipated in 1915-16.

2. After the close of the year arrangements were made for the complete separation of Assam and Bengal surveys, and the control of the Department has been entrusted, as an experimental measure, to the Superintendent of Surveys, Eastern Circle, of the Survey of India. Major Hirst has been in charge of the Provincial Surveys of Assam for seven years, and the Chief Commissioner is glad to take this opportunity of acknowledging the great zeal and energy with which he devoted himself to every branch of his duties during this long period. Sir Archdale Earle has also read with pleasure Major Hirst's account of the good work done by the various officers working under him during the year under review.

3. Only one resettlement was completed during the year and that was of the Guma Duar in the Goalpara district. The rates previously assessed were very low, and the resettlement resulted in an increase of 2 per cent. in area and 27 per cent. in revenue. The most important operations in progress during the year were the resettlement of the Cachar district and the Jaintia parganas in Sylhet and the experimental survey and settlement of an area of about 95 square miles in the latter district, nearly all of which was permanently settled. Work was much hampered in Cachar by floods of abnormal severity, which necessitated the temporary closure of the Settlement Office and the diversion of part of the staff to other duties. Additional officers were, however, employed, and the progress made was satisfactory. The staff employed in the Jaintia parganas also had to be strengthened to cope with an immense number of mutation cases due to the splitting up of *ijmali pattas*. In Sylhet the survey and preliminary record-writing of 88 square miles were completed during the field season, and office work was well kept up to date during the recess. The new experiment offered numerous problems for solution, but the work so far is proceeding satisfactorily, and such difficulties as have arisen have been solved.

4. The reports submitted by the Director of Land Records and his Assistant suggest that there has been some improvement in the maintenance of the record in the districts not under resettlement, but that much still remains to be done. Mr. McSwiney and Mr. Edwards who held the office of Director of Land Records and Agriculture during the year did a full amount of touring, as they were absent from their headquarters for 203 days, but the Chief Commissioner regrets that the Director should have been unable to inspect the work of the mandals in the Lakhimpur

and Sibsagar districts during the field season and that he should only have been able to inspect in one circle in Nowgong. The Assistant to the Director of Land Records was on tour for 258 days out of the 305 during which he was in charge. Mr. Edwards reports that the work done by Sub-Deputy Collectors was on the whole better than in the previous year, and he has done well to make it clear that the only passport to promotion is specially good land records work.

5. The Director of Land Records refers to various defects still not infrequently found in the record which can only be eliminated by constant supervision of the Mandal by the Kanungo and of the Kanungo by the Circle Officer. The Chief Commissioner regrets to learn that mistakes in the area and classification of post settlement *dags* are common and that periodic *pattas* are issued for land without adequate test of these important points. It appears from Appendix E to the report that the percentage of mutations due to succession to the total number of *pattas* in the five upper districts of the Assam Valley ranges from 1·8 to 4 per cent. If these figures are correct, a considerable number of such transfers must have passed unnoticed. It is only by continuous supervision that these defects can be eliminated, and Sir Archdale Earle is glad to hear that Deputy Commissioners and Subdivisional Officers in the Assam Valley paid considerable and increased attention during the year to the work of the Land Records staff. The names of the officers selected for special mention by the Director of Land Records have been noted. In Sylhet the Deputy Commissioner and the Subdivisional Officer of Karimganj alone appear to have done any inspection work. The Chief Commissioner's orders in the matter did not, however, reach the local officers till towards the end of the field season, and during the rains such work can only be undertaken with difficulty, and this year at that period they were largely engaged in combating the distress caused by the heavy floods. Though the temporarily-settled area in many of the subdivisions of Sylhet is small, its management presents peculiar difficulties, and inspection has shown that there are many defects which call for urgent remedy.

Sir Archdale Earle wishes to make it clear that he attaches the greatest importance to this part of the duties of District and Subdivisional Officers. He acknowledges the advance made during the year, but trusts that the next report will show even better results.

6. The Chief Commissioner is indebted to Mr. McSwiney and Mr. Edwards for their careful administration of the department and to the latter officer for his report upon the working of the year. The report exceeds the prescribed length by two pages, an excess which is to some extent due to the incorporation of statements showing the number of resident and non-resident mandals, the fines imposed on recorders, and the amount of travelling allowance drawn by the subordinate Land Records staff. The inclusion of these statements in the body of the report is opposed to standing orders, and the subjects to which they refer can be dealt with in less detail in subsequent reports.

ORDER.—Ordered that this Resolution and the Reports of the Director of Surveys and the Director of Land Records be published in the *Assam Gazette*.

By order of the Chief Commissioner of Assam,

B. C. ALLEN,

Chief Secretary to the Chief Commissioner of Assam.

A. S. P. O. (R. & Agri.) No. 72—350—9-2-1916.—D. C. N.

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